CONSUMERS UNION Reports

Volume 4, Number 7 JULY 1939 $3 a Year, 25c a Co

The Cost of Railroad Travel

Some startling facts and figures on railroad fares—what they actually are and what they could be—see p. 8

RESULTS OF TECHNICAL TESTS ON

Women's Shoes
Portable Radios
Sunburn Preventives
1939 Refrigerators
Ice Cream

& OTHER PRODUCTS

The Skin & Hair in Summer

Some authoritative do's and don'ts to help you get the maximum benefits out of the summer sun—see p. 17

Published Monthly by CONSUMERS UNION OF UNITED STATES

CONSUMERS UNION OF UNITED STATES, INC.

17 Union Sq. W. — 1 — New York City

Contents for July 1939

CU's ratings of products are based on both quality and price. A product rated "Also Acceptable" may be of higher quality than one rated "Best Buy" but the "Best Buy" will normally give greater return per dollar. In most cases a product rated "Not Acceptable" is judged not worth buying at any price, because of inferior quality or because it is potentially harmful. Products rated "Not Acceptable" for more specific reasons are so noted.

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Consumers Union's own technicians conduct many of the tests and investigations on which ratings are based. The greater part of the testing, however, is done by consultants—more than 200 specialists selected for their competence and freedom from commercial bias—in university, governmental and private laboratories.

Samples for test are in almost all cases bought on the open market. Whenever time and the nature of the product allow, testing is done by actual use trials as well as by laboratory analyses.

Supplementary labor reports are published regularly. Entirely independent of the technical reports, these do not affect ratings.

CONSUMERS UNION publishes two monthly editions of the *Reports*—full and limited. The full edition contains reports on many higher-priced products not carried in the limited.

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All members have the right to vote on candidates for the Board of Directors and on resolutions on policy at the annual meetings.

The Consumer Reporter

Surprise

According to the *Food Field Reporter*, a newspaper of the food and grocery industry, a recent speech by Secretary of Commerce Harry Hopkins at an American Retail Federation Forum "had retailers scratching their heads in wonderment." The trade paper reports that "the suggestion that multiple brands, heavy advertising expenditures and the lack of grade labeling were things of 'dubious social value' left retailers gasping."

Cosmeticana

Latest wrinkle in cosmetics is aimed, according to *Business Week*, at "women who are perturbed by the startling contrast between lipsticked lips and natural-color gums." To calm such ladies, the Perx Co. of Chicago has manufactured a cosmetic toothpaste, which is designed to tint the gums a noticeable pink at the same time that it cleans the teeth. The new product is to be advertised, apparently, in the very teeth of Ipana's thunderous warnings against pink toothbrush.

New Deal "Victim"

R. B. White, president of Western Union, protested the Wage-Hour Bill on the grounds that his company would go broke if it paid messenger boys more than $8 a week. Figures recently released by the U. S. Treasury Dep't show that during 1937 Mr. White paid himself over $1,600 a week, or $84,340 for the year.

Fear Technique

The Federal Trade Commission complains, with some justification, of an ad for *Nash Chill and Liver Tonic*, sold by a Jonesboro, Ark., drug firm. The promotion in question, according to the FTC, lists ailments including "constipation, chills, occasional fever, fatigue, biliousness, indigestion, loss of weight, and backache," and then adds cheerlessly:

"If you have any of these symptoms no doubt you are suffering from the first—or maybe the more serious stages of malaria."

The same literature takes the gloomy position that "nine out of ten" Southerners have malaria.

The FTC says it's got to stop.

Spending Program

A recent court action involving Lever Bros., manufacturers of *Lifebuoy* soap, reveals that between 1926 and 1938 the company spent more than 10 million dollars making the nation "B.O." conscious. The figure is especially interesting in view of the fact that "B.O." is comparatively rare among people who can afford soap and bathtubs, and that *Lifebuoy* is less safe, but no more effective than most other soaps.

End of an Alibi

For generations Southern employers have paid less than Northern employers for the same type of work. Time-honored alibi: living costs are lower in the South.

In what may be one of the most important government surveys ever made, the Bureau of Labor Statistics recently exploded this bit of theory. The survey showed that living expenses below the Mason and Dixon Line are only 3.1% lower than in the North, and that even this differential is based on the fact that Southern families necessarily buy poorer quality goods. Only rent and fuel costs were shown to be substantially lower in the South; clothing, furniture and household goods are higher priced, and food prices virtually the same. Wider cost differentials were found between various communities in the South than between the entire South and North.

The survey was made at the request of the Wage-Hour Administration which has been faced with Southern employers' pleas that they be exempt from the harsh necessity of paying labor 25¢ an hour.

CONSUMERS UNION IS SPONSORED BY MORE THAN 70 EDUCATORS, AUTHORS, SOCIAL WORKERS AND SCIENTISTS. NAMES OF THESE SPONSORS ARE AVAILABLE ON REQUEST

CONSUMERS UNION REPORTS IS PUBLISHED MONTHLY BY CONSUMERS UNION OF UNITED STATES, INC., NORTH BROADWAY, ALBANY, N. Y. OFFICES, 17 UNION SQ. W., NEW YORK CITY (ADDRESS ALL CORRESPONDENCE TO THIS ADDRESS). NOTICE OF CHANGE OF ADDRESS SHOULD BE GIVEN IN ADVANCE (PLEASE INDICATE WHETHER $3 or $1 MEMBER AND ENCLOSE OLD ADDRESS). ENTERED AS SECOND-CLASS MATTER JUNE 1939 AT THE POST OFFICE, ALBANY, N. Y., UNDER THE ACT OF MARCH 3, 1879. COPYRIGHT 1939 BY CONSUMERS UNION OF UNITED STATES, INC.

1939 Refrigerators Are Cheaper

. . . which is the most important fact about them for consumers. Mechanical innovations are few, but some brands show improvements over last year. Notes on construction features, details of CU's tests, and ratings of 17 models are contained in this report

THE most important consumer news in the field of household refrigeration is the fact that prices have been reduced. Every large manufacturer now makes a six-cubic-foot box at about $150, whereas last year's prices on most lines of six-cubic-foot boxes began at about $180 or $190.

The only mechanical innovation of importance to consumers is Frigidaire's new *Cold-Wall* refrigerator.

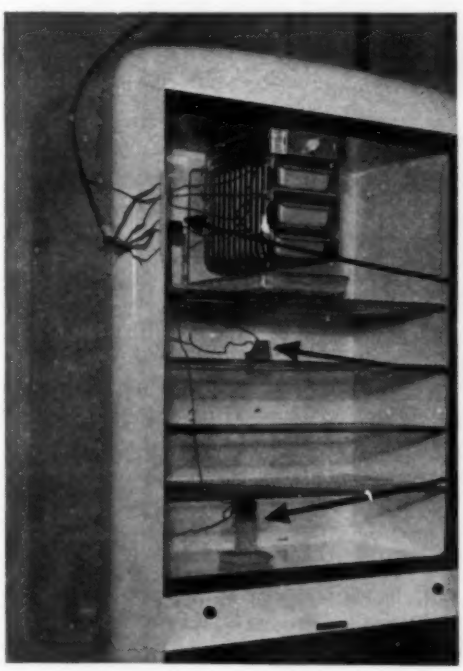
The lower section of the *Cold-Wall* is cooled by refrigerating coils in the walls of the cabinet, rather than, as usual, by the evaporator or freezing unit located in the upper part of the box. Because of the large area of these coils, they need not be keep quite so cold as the evaporator. Consequently, moisture in the food space is not deposited as frost; the result is a higher humidity in which food does not dry out so readily. If food is left in a covered dish, it will keep just as well in any other refrigerator. To most consumers the *Cold-Wall* will not be worth its high price.

Careful consideration should be given to the size of cabinet selected. There is a very slight difference in operating costs between a refrigerator of adequate size and one which is a cubic foot smaller. Moreover, when food is crowded into the cabinet, air circulation is impaired and food does not keep so well. In the long run the saving in food effected by a sufficiently large refrigerator will offset its extra cost.

AN IMPORTANT item in determining refrigerator quality is the type of insulation used. The period of time covered by CU's tests was too short to show the whole effect of moisture absorption by the insulation. Such absorption, however, decreases the effectiveness of the insulation and results in an increase in the amount of electricity the refrigerator uses. Over a period of years, especially in moist humid climates, this factor can be extremely important; in dry temperate climates it is less so. Of the insulating materials now in use, Dry Zero and mineral wool are least absorbent to moisture and will therefore deteriorate less rapidly and maintain insulating effectiveness under high humidity conditions longer than other materials.

Moisture from the air enters a refrigerator through the joints in the external walls of its cabinet; it condenses on the chilled insulation much as beads of moisture form on the outside of a pitcher of cold water.

So far, it has been impossible to make the walls of a refrigerator airtight. However, with one exception noted in the ratings, all refrigerators tested by CU had joints sufficiently tight to prevent free entrance of moisture.



TEMPERATURE TEST

Temperature in the food space was measured by thermocouples (indicated by arrows) which are connected to recording instruments (not shown). Additional thermocouples are in the ice tray compartments.

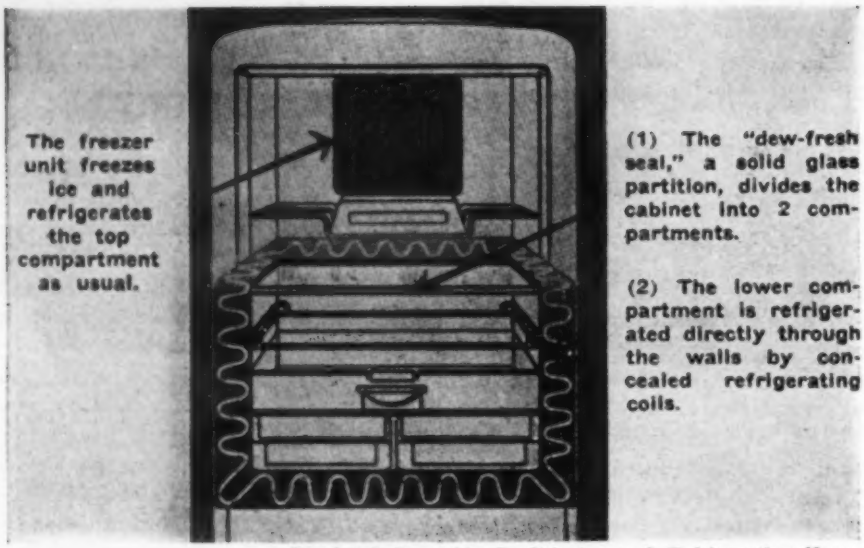
In order to reduce the amount of moisture absorbed by the insulating material, refrigerators are now being constructed with a small opening between the food compartment and the space enclosing the insulation. In these refrigerators, air circulation continually carries moisture from the insulation into the cabinet, where it is added to the frost normally deposited on the evaporator. This process tends to reduce the amount of moisture accumulated on the insulation.

Most refrigerators are finished on the outside with one or another type of enamel. Porcelain exteriors are more expensive, and may chip if they are severely misused; they do endure ordinary wear and tear better than non-vitreous enamels.

Refrigerator compressors (freezing mechanisms) are either rotary or reciprocating; either of these types may be sealed or unsealed. Despite the manufacturers' emphatic claims for one type as opposed to the other, either may be satisfactory if it is well constructed. (Most compressors are reciprocating, although the rotary type is somewhat commoner than it was a few years ago.) The sealed compressors, however, have one important advantage over those which are unsealed. The latter must either be left to consume electricity while you are away on a vacation, or they must be disconnected with the aid of a serviceman who will pump down the refrigerant and shut off the valve before the electricity is turned off. (Remember that if such precautions are not taken the refrigerant can leak out into the room and, since all refrigerants are either poisonous, or potentially poisonous,[1] an accident of this type can be very serious. In any case, it might damage the refrigerator.)

ALL refrigerators tested were subjected to standard tests for economy of operation, both while they

[1] Sulfur dioxide and ammonia are poisonous, but have a warning odor. Freon, Carrene and F–114 are nonpoisonous, but decompose into poisonous gases in the presence of a flame. Methyl chloride is poisonous, inflammable, and has no warning odor.


The freezer unit freezes ice and refrigerates the top compartment as usual.
(1) The "dew-fresh seal," a solid glass partition, divides the cabinet into 2 compartments.
(2) The lower compartment is refrigerated directly through the walls by concealed refrigerating coils.

Reprinted from Air Conditioning and Refrigerating News.

FRIGIDAIRE'S "COLD-WALL" SYSTEM

. . . is the only mechanical innovation of importance to consumers this year. But to most users it will probably not be worth its high price

were freezing ice cubes, and while they were not. All of them were also operated in an atmosphere of high humidity in order to check the degree to which their insulation absorbed moisture. Their relative efficiency was not altered by the ice-freezing load, and only the *Electrolux* failed to freeze ice cubes in an external temperature of 110 degrees.

Examination of the refrigerators following a high humidity test, revealed that hardware and external joints were rusted to some degree on all the refrigerators tested. The door hinge screws rusted on the *Crosley;* on the *Co-op* refrigerator concealed parts of the door latch corroded. Joints on the outside of the cabinet rusted on the *Crosley, Ward, Norge* and *Kelvinator.* Corrosion of this type may seriously affect the useful life of a refrigerator and will be especially important if it is used in a damp climate.

Tests for shock hazard consisted of measuring current leakage and determining the voltage at which insulation broke down. The maximum current leakage considered permissible was .2 milliamperes at 115 volts. Insulation which could not withstand a voltage of 1,000 was considered unsatisfactory. (The voltage which insulation can withstand is not only an indication of shock hazard but also of the general durability of the insulation.)

All refrigerators tested, except Crosley, *showed greater electrical shock hazard than CU considers permissible. Therefore, before plugging the refrigerator into the light socket, be sure that the metal parts of the cabinet are grounded to a nearby pipe or other ground. This caution is absolutely essential.*

In economy tests it was found that the new *Norge* required considerably less energy than last year's model; hence *Norge* is once again a "Best Buy." *Crosley* has also improved in this respect. Former models were very expensive to operate, whereas this year the *Crosley* was as economical in operation as such standard brands as *Kelvinator* and *Frigidaire.*

Electrolux still showed insufficient refrigerating capacity for temperatures continuously above 100 degrees; moreover with existing gas and electric rates in most communities, its operating cost will be relatively higher at all temperatures. *Electrolux* will be economical to operate only in localities where gas is very cheap or electricity expensive. Costs will be comparable to costs of electric refrigeration where electricity costs 5¢ per kwh and manufactured gas can be obtained for 70¢ per thousand cubic feet, or natural gas for about $1.50 per thousand cubic feet. The machine will be comparatively economical in natural gas areas where gas commonly sells for about 60¢ per thousand cubic feet. (Under average conditions the operating cost of a gas refrigerator is about twice that of an electric refrigerator and that of an ice box about three times as high. See CU *Reports,* June 1938.)

Any good thermometer will help you check the temperature of your refrigerator. A check on energy consumption may be obtained by noting what percentage of the total time the machinery operates. Any considerable increase in this percentage at the same room temperature indicates a decrease in the efficiency of the refrigerator. Possible causes: loss of refrigerant through leakage; absorption of atmospheric moisture into the cabinet insulation; dust accumulation on the condenser.

Current models of brands indicated by an asterisk were not tested this year; ratings are based on previous tests and other data available to CU. Remember that CU's ratings do not apply unless the precaution to ground the refrigerators is observed.

Best Buys

Norge P-6 (Norge Div., Borg-Warner Corp., Detroit). $150. Showed a marked improvement in operating economy over the *Norge* tested last year. Freezing capacity considered equal to that of other refrigerators tested and sufficient for satisfactory operation; it was not, however, as great as the freezing capacity of last year's *Norge.* Cost of operation about the same as that of *GE* and *Westinghouse.* Cabinet well sealed and insulated with Dry Zero; should, therefore, maintain low operating cost even in continuously hot humid climates.

****General Electric*** LB6-39 (General Electric Co., Cleveland). $150. Essentially similar to last year's model, which was very economical in operation.

****Hot Point*** 120EA63 (Edison General Electric General Supply Co., Chicago). $150. Essentially similar to *GE* except that condenser is cooled by fan rather than natural draft.

****Westinghouse*** S-6-39 (Westinghouse Electric & Mfg. Co., Mans-

field, Ohio). $150. Will be as economical as model tested last year. Should, therefore, be about equal in operating cost to *GE*.

Also Acceptable

(In estimated order of merit)

****Frigidaire*** Super Value 6-39 (Frigidaire Div., G. M. Corp., Dayton, Ohio). $150. Cost of operation will be only slightly higher than that of *GE* and *Westinghouse*.

Crosley LA9-60 (Crosley Corp., Cincinnati). $137.50. More economical in operation than last year's model; ample refrigerating capacity. Capacity of cabinet two-tenths of a cubic foot less than advertised. Energy consumption increased about 10% after high humidity test.

Kelvinator K26-39 (Kelvinator Div., Nash-Kelvinator Corp., Detroit). $150. About equal in cost of operation to *Frigidaire*.

Sears' Coldspot Cat. No.—3369 (Sears-Roebuck). $115 plus shipping charges. Lower in price than even the new economy models of other brands, and as economical in operation as many more expensive refrigerators. Showed highest shock hazard of any refrigerator tested; current leakage was considerable; failed on high voltage test. Acceptable only if grounded. Open compressor (see text). Under high humidity and high temperature water seeped through the joints in the top of the food compartment. Result: energy consumption increased about 17% after high humidity test. Ample reserve capacity for high temperatures. (Don't confuse this with lower-priced *Coldspots*, which are somewhat different in construction and less economical to operate.)

The next five refrigerators are deluxe counterparts of some of those listed above. They are equipped with various gadgets and convenience features; whether these additions are worth the added price is a matter for individual judgment.

****Norge*** G-6. $185.

****Hot Point*** 12 EG-63. $180.

****GE*** JB6-39. $185.

****Westinghouse*** H-6-39. $180.

****Frigidaire Special*** 6-39. $184.

Frigidaire Cold-Wall 6-39. $235. Failed on both current leakage and high voltage tests. Acceptable only if grounded. Probably not worth its high price to most users. Very good sealing of external joints, caulked with composition.

Ward's Cat. No.—1623 (Montgomery Ward). $121 plus shipping charges. General constructional features comparable to other refrigerators tested, except that it had two hard cylinder compressors. Acceptable only where electric rate is low, as energy consumption was high.

Technical Data on Mechanical Refrigerators

Brand and Model	Price ($)	Net Food Storage Space (cu. ft.)	Insulation	Type of Compressor	Refrigerant	Comparative [1] Consumption of Electricity (Kwh Per Day)	Comparative [2] Operating Cost Per Month ($)
Best Buys							
Norge P-6	150	6.2	Dry Zero	Sealed rotary	Sulfur dioxide	.68	.83
General Electric LB6-39	150	6.1	Corrugated paper	Sealed reciprocating	Sulfur dioxide	.66 [3]	.81
Hotpoint 120EA-63	150	6.1	Corrugated paper	Sealed reciprocating	Sulfur dioxide	.66 [3]	.81
Westinghouse S-6-39	150	6.2	Corrugated paper and balsam wool	Sealed reciprocating	Freon	.70 [3]	.86
Also Acceptable							
Frigidaire Super Value 6-39	150	6.0	Mineral wool	Sealed rotary	F-114	.90 [3]	1.09
Crosley LA 9-60	137.50	5.8	Mineral wool	Sealed reciprocating	Freon	.89	1.08
Kelvinator KT6-39	150	6.4	Kelvatex (corrugated paper)	Sealed reciprocating	Freon	.89	1.08
Sears' Coldspot 3369	115 [4]	6.3	Coldex (mineral wool)	Open rotary	Sulfur dioxide	.89	1.08
Norge G-6	185	6.1	Dry Zero	Sealed rotary	Sulfur dioxide	.68	.83
Hotpoint 120EB-63	180	6.1	Corrugated paper	Sealed reciprocating	Sulfur dioxide	.66 [3]	.81
General Electric JB6-39	185	6.1	Corrugated paper	Sealed reciprocating	Sulfur dioxide	.66 [3]	.81
Westinghouse H-6-39	180	6.2	Corrugated paper and balsam wool	Sealed reciprocating	Freon	.70 [3]	.86
Frigidaire Special 6-39	184	6.2	Mineral wool	Sealed rotary	F-114	.90 [3]	1.09
Frigidaire Cold-Wall 6-39	235	6.1	Mineral wool	Sealed rotary	F-114	.91	1.11
Ward's 1623	121 [4]	6.3	Corrugated paper	Open reciprocating	Freon	1.52	1.86
Electrolux K-600	264	6.4	Corrugated paper	No moving parts	Ammonia	.71 [5]	2.60 [6]
Not Acceptable							
Co-op Model 80	159 to 190	7.7	Corrugated paper	Open reciprocating	Methyl chloride	1.66	2.01

[1] Estimated by averaging no-load test performance at 70°F and 90°F, standard NEMA test conditions; figures are comparative only — actual costs will vary widely depending on conditions of use.
[2] At 4¢ per kilowatt-hour.
[3] Estimated from former tests and specification data.
[4] Plus shipping charges.
[5] Cu. ft. of gas per day, 520 Btu per cu. ft.
[6] At $1.20 per 1,000 cu. ft.

Electrolux K-600 (Servel, Inc., Evansville, Ill.). $264; distributed by local gas companies, often at lower prices. For cost of operation, see table. Contains no moving parts. Is practically inaudible in operation and should wear better than motor-driven compressor units. Although most of the electric refrigerators tested operated satisfactorily at a room temperature of 110°, the interior temperature of the *Electrolux* rose to 70° under these conditions. Hence it will be unsatisfactory where the room temperature is apt to be continuously above 100°. Porcelain of inner liner was badly dulled after 24 hours contact with lemon juice. Shock hazard high; if electric light is used, refrigerator must be grounded before it is connected to lighting circuit.

Not Acceptable

Co-op Model 80. Distributed by cooperatives in the East and Middle West at prices ranging from $150 to $190. 7.7 cubic feet. Special features: (1.) The cooling unit is the full width of the inside of the cabinet and five ice trays are included, one double depth without grids for frozen deserts. (2.) A separate compartment which runs several degrees warmer than the food space temperature is provided above the cooling unit.

Sealing of external joints poorest of refrigerators tested; top cover did not seal insulation properly, and top door was so poorly adjusted that there was a space between the rubber sealing strips on the door and the outside of the cabinet. In a test run with the door closed, a large amount of ice was deposited on the freezing unit. Electrical consumption unduly high; had two-cylinder compressor. Porcelain of inner liner was badly dulled after 24 hours contact with lemon juice. Failed on both current leakage and high voltage tests.

CU has been advised that before the 1940 models are accepted by the cooperatives for distribution, attempts will be made to correct the deficiencies found in this refrigerator.

For Gasoline Economy

. . . try third-grade gasoline, a non-leaded brand if possible. With proper spark adjustments many of them should give satisfactory service in most cars

IF YOU are interested in reducing your annual gasoline bill from $15 to $50 a year you will be wise to begin immediate experiments with the third-grade gasolines available in your part of the country.

Fortunately, the number of third-grade gasolines with octane (anti-knock) ratings sufficiently high for the majority of cars is increasing. Unfortunately, the anti-knock rating is being increased chiefly by the addition of tetraethyl lead.

CU must repeat its previous warnings as to the health hazard offered by any leaded gasoline. Although the U. S. Public Health Service has claimed it found no harmful effects from the exhaust fumes given off by engines using leaded gasoline, in CU's opinion the possibility of such a hazard remains and is, in fact, increasing with the wider use of leaded fuels. Hence those non-leaded third-grade gasolines which do not knock excessively when the engine is operating under a load are preferable to the leaded variety. When such products are not available it is preferable, for economy, to use third-grade leaded gas instead of regular.

The non-leaded third-grade gasolines with octane ratings ranging from 53 to 65 will be satisfactory in most cars more than five years old and in some of the later cars with engines having comparatively low compression ratios. The new leaded third-grade gasolines have an octane rating around 68, and will be satisfactory in practically all cars, particularly when the spark has been properly adjusted.

A useful list of non-leaded gasolines sold in the various States can be obtained, without charge, from the United Laboratories.[1] This list covers special gasolines for lamp and stove use and other non-leaded gasolines which may be used in appliances or automobiles. Remember that leaded gasoline should *never* be used in household appliances.

[1] 240 No. Saint Francis St., Wichita, Kans.

THE Ethyl Gasoline Corp. has been doing an immense amount of promotional work to encourage motorists to have their automobiles "tuned-up." Reason: if engines are tuned up enough —that is, if the spark is advanced far enough—they require premium gasoline.[2] In the ad on page 7, typical of Ethyl's promotion to consumers, it is claimed that "the higher the anti-knock quality of the fuel used, the farther the spark can be advanced and the greater the performance and economy. . . ."

The next paragraph does qualify this statement, but not nearly well enough to avoid misleading the average reader. In a trade ad to dealers and servicemen Ethyl comes closer to saying what the facts warrant: "The farther you advance the spark, *up to the point of maximum efficiency*, the more power you get from gasoline" [italics ours—CU]. In all automobiles there is a position of spark adjustment for maximum engine efficiency. If the spark is either retarded or *advanced* beyond this point, efficiency is decreased slightly no matter how high the octane number of the gasoline. An entirely false implication of the ad reproduced is that premium or Ethyl gasoline must be used to obtain maximum power.

In still another respect, the Ethyl advertisement states only half the truth—and the other half is of much more importance to consumers. L. E. Hebl and T. B. Rendel of the Shell Petroleum Corp. have reported, recently, experimental work in which they found a loss of power of only 3% when the octane number was reduced from 85 to 60.[3] This corresponds to the loss of power between the Ethyl Corp.'s "Best Performance" and "Poor Performance," and the difference in octane numbers

[2] See the recent article by Neil MacCoull, Research Engineer of the Texas Co. in the *Journal of the Society of Automotive Engineers* for April 1939.

[3] *Journal of the Society of Automotive Engineers*, May 1939.

is greater than that which exists between *premium* and most third-grade gasolines. As the speed of the car is decreased the loss of power increases—it may go up to 10% at very low speeds. But with the spark properly adjusted, third-grade gasoline with an octane rating of about 55 will on the average result in a loss of less than 3% as compared to regular (72 octane) gasoline.

If you don't object to the slight loss of power, and if you keep the engine reasonably free of carbon, you will probably find third-grade gasoline completely satisfactory. And it is cheaper to remove carbon than to continue to pay the higher prices for the regular and Ethyl gasolines. (A gallon of regular costs from 1¢ to 5¢ more than a gallon of third grade.)

THE large sums that the Ethyl Corp. is now investing to persuade service station and garage men that your car should be "tuned-up" makes it more than ever necessary for you to be very careful about trusting to servicemen the job of adjusting the spark on your automobile. If a serviceman does the job, check up on his work.

When an engine free of carbon deposits runs poorly on good third-grade gasoline, it is usually because the spark has been advanced too far; in most cases slightly retarding the spark will remove the difficulty. Several trial adjustments may be necessary before a proper setting is obtained; and that is another reason why this essentially simple operation should be performed by the person who is driving the car. Here are directions for retarding the spark:

On a Ford V-8: On the left-hand side of the distributor, low at the front of the engine is an adjusting bolt, held by a lock nut. Loosen the lock nut and screw the bolt in clockwise about one turn. Then tighten the lock nut.

On other cars: First, learn the direction of rotation of the distributor shaft by removing the distributor cap and watching the end of the shaft while another person operates the starter. Next loosen the clamp which holds the distributor body and turn the whole distributor *as slightly as possible* in the direction of rotation. Tighten the clamp. Some cars have a scale (usually covered with oil and dust) on which you can see the distance you have turned the distributor.

The setting of spark adjustment should be such that the engine knocks slightly when the car is accelerating or climbing a hill with the throttle all the way to the floor. Such slight knocking under load is not only harmless but is an indication that the engine is, on the average, operating at maximum efficiency.

LISTED below are some of the companies which sell new 67–68 octane, leaded third-grade gasoline. A number of them distribute it only in the Central States and market non-leaded, lower octane third grades in other parts of the country. In many cases the gasoline marketed under the same brand name differs in quality and octane number in different parts of the country. (For example, the Texas Co.'s *Indian* is leaded in some parts of the country, and not in others. The leaded *Indian* is available as far east as Camden, N. J., but not in NYC.) In some metropolitan areas few satisfactory third-grade gasolines are available.

Barnsdall Refining Corp.
Cities Service Oil Co.
Continental Oil Co.
Danciger Oil & Refineries, Inc.
Derby Oil Co.
Humble Oil & Refining Co.
Phillips Petroleum Co.
Pure Oil Co.
Rock Island Refining Co.
Sinclair Refining Co.
Skelly Oil Co.
Socony-Vacuum Oil Co.
Standard Oil Co. of Indiana
Texas Co.
Tide Water Oil Co.
Wilcox Oil & Gas Co.

. . . and remember, there are 3 ways to go by car

Before you set out on your trip, you'll probably have your car tuned-up and put in first-class condition. Don't forget that the better the grade of gas in your tank, the better the engine tune-up your motor service man can give you.

Why? Because there is a device under the hood of your car that is as important as the throttle or gear shift—the spark adjustment. It controls the *performance* of your engine. The higher the anti-knock quality of the fuel used, the farther the spark can be advanced and the greater the performance and economy you'll get as shown on the chart below:

BEST PERFORMANCE—with gasoline marked "Ethyl" on the pump or globe. It is highest in anti-knock and all-round quality. Contains enough tetraethyl lead so that your engine's spark can be *advanced* closest to the point of maximum power and economy without "knock" or "ping."

GOOD PERFORMANCE—with "regular" gasoline, which permits the spark to be considerably advanced without "knock" or "ping." Most "regular" gasolines now contain tetraethyl lead, as shown by the "Lead" signs on the pumps.

POOR PERFORMANCE—with low-grade gasoline, poor in anti-knock quality. With low-grade gasoline in a modern car, the engine's spark must be *retarded*—which means *loss* of power and economy.

ETHYL GASOLINE CORPORATION, ***manufacturer of anti-knock fluids used by oil companies to improve gasoline***

HALF TRUTHS IN ETHYL ADVERTISING
The other half of the story is more to the point (see text)

The Cost of Railroad Travel

. . . is still too high for travelers, for railroad labor, and for the railroads themselves. Proof lies in the startling facts and figures brought together in this article

by MORITZ HOWARD

(Moritz Howard is a pseudonyn used by two writers whose present connections with the railroad industry make the use of their names inadvisable)

"It may be that the railroads are immune from ordinary economic laws. I doubt it. It might be said that if the railroads are bent on committing suicide, why should we seek to prevent them? I still believe that we owe a duty to the public and for that reason must register my dissent."

—Commissioner Claude R. Porter (dissenting from an Interstate Commerce Commission order permitting a 25% increase in coach fares).

ON June 30 the Eastern railroads declared their latest "drastic reductions" in passenger fares. But don't be misled. The reductions apply only on certain kinds of travel. Basic coach fares are still 2.5¢ a mile, 25% higher than the "reasonable maximums" set by the Interstate Commerce Commission in a 1936 order never repealed but suspended until next January. More important, they still are more than double the flat cent-a-mile coach rate which experiments have shown to be profitable for the railroads themselves. Basic Pullman fares in the Eastern district remain at 3¢ a mile plus accommodations—except for a .3¢ reduction good only in upper berths.

It is an open secret that whenever railroads have reduced their fares they have increased their profits, and vice versa. The mathematics of this apparent paradox is simple. It costs an estimated .3 of a cent to transport a coach seat a mile,[1] whether the seat is full or empty. If half the seats are full (as they have been in cent-a-mile experiments) the railroad makes a tidy profit. If only a tenth of the seats are full (as they are all too often), the railroad shows a loss even at 2.5¢ or 3¢ a mile. And essentially the same reasoning applies to Pullman fares. The railroad passenger problem is an empty seat problem.

THE effects of high rates can be seen in the travel statistics. From 1920 to 1933 the American travel market quadrupled. Americans learned the joys of tourism, and traveled nearly four times as far at the pit of the depression as they did in 1920. But they didn't travel by train. The railroads, instead of capturing their share of the increased travel business, lost three-fourths of their 1920 passengers. By 1933 the average American was spending less on rail travel than in any year since 1871!

The railroads made a profit on passengers consistently in every year before 1926; they have lost money every year thereafter, and since 1931 have been losing as much as $200,000,000 a year on their passenger service.

During the years of tobogganing railroad passenger traffic — 1920 through 1933—automobile travel was becoming annually cheaper, more comfortable, and more popular. The railroads fell out of step. What's more, they did little or nothing to curb their rapid descent until the late 1920's. Then they introduced cut-rate round-trip excursion fares. By 1934, only 40% of all Eastern travelers were paying the then basic rate of 3.6¢ a mile.

But excursion rates failed to stop the decline of revenues. The essence of an excursion rate is that you have to go where the railroad wants you to go, when the railroad wants to take you there, and to come back when the railroad wants to bring you back. Excursions served chiefly to make inconvenient passenger schedules still less convenient.[2]

Meantime, the railroads were sharply curtailing their regular service. By 1933, train schedules had been cut 33% under the 1923-1929 average. Nor, prior to 1933, did the railroads take advantage of metallurgical and other technical advances to improve their passenger equipment. After 1933, they talked much of air-conditioning, streamlining, and lightweight construction. But they didn't construct.

In 1933, 2,081 passenger cars were retired and just seven new ones were built. By the beginning of 1937, four years after the Chicago World's Fair had touched off the talk of new-style equipment, only about 700 new-style passenger cars had been constructed, out of 40,000 in operation.[3] You can find 1920 airplanes only in museums; 1920 automobiles have disappeared even from the junk yards. But you can catch a 1920 train at the nearest railroad station.

WHAT were railroad executives doing while their share of the travel market was declining from 90% to 7%? They were busy. The record of the Wheeler Senate Railroad Investigation shows what many of them were busy doing.

In the 1920's they were forming holding companies, buying control of one another through improvident stock purchases, speculating on margin with railroad funds at Paine, Webber & Co. The Frisco boys were buying Rock Island stock and the Rock Island boys were buying Frisco stock. The rich roads were cooking their books to dis-

To Come

THE article on railroad passenger rates in this issue will be followed in a subsequent issue of the *Reports* by a second article on railroad service and equipment.

[1] This figure depends, of course, upon such factors as number of cars per train, type of equipment, operating efficiency, &c. Other estimates place the cost per coach seat as low as .24¢ and as high as .61¢.

[2] An exception is the current World's Fair Circle Tour, good from any point to both Fairs and back by any route. Such flexible excursions have long been urged on the railroads. The rate is $90 in coaches, $169.50 (including accommodations) in upper berths, and $180 in lower berths. The coach rate is the equivalent of 6,000 miles at 1.5¢; the Pullman rate ($135 ex-berths) equals 6,000 miles at 2.25¢ a mile. The Passenger Traffic Report to the Federal Coordinator of Transportation recommends excursions at .5¢ a mile.

[3] Fuller discussion of passenger equipment will appear in the second article of this series.

guise excess freight profits liable to recapture. The poor roads were cooking their books to hide losses from investors.

In 1930 they were busy laying off workers, slashing payrolls, skimping maintenance and juggling accounts in an effort to squeeze just one more dividend out of declining revenues.

In 1931 they were in Washington lobbying for the RFC Act; and in 1932 and 1933 they were borrowing hundreds of millions from the RFC, sometimes on the basis of false sworn statements, using the RFC money to bail out the bankers who controlled them and to postpone inevitable bankruptcies just a little longer. Meanwhile, the number of passengers carried declined from 537 million in 1923 to 160 million in 1933.

First road to apply common business sense to the passenger problem was the Southern Railway. Its passenger revenues had declined from $37,000,000 in 1920 to $8,000,000 in 1932. Then it experimented with a 2-cent-a-mile coach rate. Traffic increased 17%, but revenue continued to decline. It also tried a cent-a-mile rate, good on Sundays only. This was immediately successful, but was not extended.

Next the Southern tried a flat 1.5¢ coach rate between two North Carolina towns. The results were phenomenal. While the railroad as a whole showed a 33% passenger revenue decrease during the experiment, the cut-rate run showed a 323% increase in passengers and a 59% increase in revenue.

In January 1933, the 1.5¢ rate was extended to three other towns. By October traffic increased 450%. During the same period, revenues on the rest of the line (at a 3.6¢ basic rate) declined 16%.

The Chicago & North Western also tried a cent-a-mile experiment. Business increased 500%, revenues 30%.

These and similar experiments persuaded the Southern and Western roads that lower rates meant higher revenues. In December 1933, the Southern lines established a basic 1.5¢ rate in coaches, 3¢ in Pullmans, with 2¢ and 2.5¢ round trips in Pullmans. The Western roads set their basic coach rate at 2¢, and Pullman rates in line with the Southern reductions. But the Eastern roads, carrying more than 50% of the total traffic, stood pat on their 3.6¢ a mile rate.

Cameras & Equipment

A REPORT on new cameras and other new photographic equipment, with ratings and much technical data, will appear in the August *Reports*. It will cover developments and new brands in the photographic field, and will supplement in many respects material in CU's "Photographic Buyers' Handbook" published this Spring.

Results in the South proved the wisdom of low rates. The Seaboard Air Line, for example, reduced its empty seats by 30%, and turned a $344,000 passenger deficit into a $172,000 surplus. In the West, the beneficial effect of the rate reduction was masked by the effect of the drought and agricultural depression; but during a period when freight revenues continued to decline, passenger revenues stood firm or increased somewhat.

LATE in 1935 the Interstate Commerce Commission instituted its first comprehensive investigation of passenger rates. It examined the annually growing deficits, the irrefutable evidence of low-fare profits, and the obvious need for drastic steps. Early in 1936 it reduced "reasonable maximums" in order to benefit the railroads themselves.

But the I.C.C. is an ancient body. For more than 50 years it has had to battle single-handed against the combined forces of a 25-billion-dollar industry. It sits as a court in which the railroads are represented by highly paid legal and economic talent while the public is represented meagerly if at all. Its staff is largely drawn from the railroads; many return again to railroad employment.

The Commission had the courage to declare the 3.6¢ fare "unreasonable." But when it came to setting new maximums, the Commission compromised.

The evidence of its own investigation and of the Federal Coordinator showed that a 1.5¢ coach rate was profitable. Nevertheless, the Commission set a 2¢ maximum for coach travel. And while the Commission found a .4¢ Pullman surcharge (established in 1920) "unreasonable," it permitted a full 1¢ differential between coach and Pullman fares, thus establishing in effect a disguised 1¢ Pullman surcharge.

The wailing predictions of railroad Cassandras that the rate reductions would reduce revenues of course proved false. In spite of the fact that the cuts were not deep enough to attract the traffic which 1¢ and 1.5¢ rates attracted, they did bring a 37.6% increase in traffic and a 16.2% increase in revenues during the first three months of reduced fares. The New Haven, backbone of high-fare agitation, experienced a 60% increase in traffic and a 29% increase in revenue. How much better the showing would have been if rates had been reduced to a cent-a-mile basis is an interesting speculation.

The Eastern railroads, however, were not content with their improved showings. Early in 1938 they again demanded higher coach fares, arguing that the cent-a-mile spread between coach and Pullman rates diverted Pullman passengers to coaches. This was undoubtedly true and unfortunate. But it never occurred to the railroads that the proper way to reduce the coach-Pullman spread was to cut Pullman fares.

There seems to be no sound reason why Pullman passengers should pay, in addition to the cost of accommodations, a cent a mile more than coach passengers. First-class hotel accommodations can be had for no more than $4 a night. Yet a round trip in a Pullman lower berth from New York to Chicago today costs $30.65 more than a round trip in coaches, or $15.32 a night.

REVIEWING the evidence of benefits from the 1936 reduction, the I.C.C. found the increase proposed by the railroads "not justified." But the decision was nip and tuck; only six of the 11 commissioners signed the majority report. Two months later, in June 1938, the Eastern roads came back again to beg for higher fares. This time their application was rushed through in five days. No representative of the traveling public made an appearance. The Commission did not vacate its earlier order setting 2¢ a mile as the "reasonable maximum" in coaches, but it did suspend that order for 18 months for what it described as "experimental" purposes.

Today, after 19 years of "experiment" with high rates, the Eastern roads think that they have seen the light. Half-page advertisements an-

nounce the latest "fare reductions," adding in small type that they are good only on 60-day round-trips. Fares are still substantially higher in the East than in the South or West, and far too high to earn a profit for the railroads themselves.

Chief innovation of the June 30 cut is "rates that decline with distance"—for example, 2.25¢ for Eastern round trips of less than 100 miles in coaches declining to 1.7¢ for round trips of more than 900 miles. A second innovation is the "intermediate rate," good only in upper berths. Prior to this cut, 90% of all upper berths were empty. You still have to pay the railroad extra for upper-berth transportation, however, in addition to what you pay the Pullman Co. for the berth itself.

The New Haven, one of the roads which benefited most from the 1936 reduction, is not even matching the current round-trip cuts. Its Bourbon directors have learned nothing and forgotten nothing. Their average age is over 70. The oldest is 82; the youngest was born years before the passage of the first Interstate Commerce Act in 1887.

Nearest approach to a fair fare today is in the South, where the basic coach fare is 1.5¢ a mile one way, 1.35¢ round trip. Even in the South, however, you have to pay 1.5¢ per mile more, one way, to travel in a Pullman, and .9¢ more round trip.

So far, no railroad has dared to put into effect the most promising of the experimental fares—a flat cent-a-mile. Nor has any road returned to the Pullman rate system in effect prior to the peak year 1920, under which you paid for your berths but did not pay extra mileage for riding in Pullmans.

A CENT-A-MILE rate in coaches plus hotel rates for Pullman berths is feasible—and would be profitable—under current operating conditions. What would happen if railroads were well equipped and efficiently managed staggers the imagination. The railroads today haul more than a ton of equipment per passenger. Modern materials make possible a two-thirds reduction in weight with no sacrifice of safety, at a decidedly marked saving in cost per mile.

The average day coach seats 84 passengers but actually carries only 12 or 14. Smaller units would cut costs and at the same time make possible more frequent schedules. Says a report of the Federal Coordinator's Section of Transportation Service: "It is clear that the present equipment is obsolete and can probably be scrapped at a profit. . . . The principle that it is cheaper to drag a 200-passenger capacity vehicle around to handle an average of 40 passengers . . . could not have gained credence if the actual costs of the practice had been exposed by the accounting system." The same report finds that the work of 1,165 traffic agencies could be done and done far better by 130 centralized agencies, at a 33⅓% saving.

At least 25% of the passenger deficit could be wiped out by the abolition of free passes. A Federal survey shows that during a sample week 34% of all passengers on fast trains traveled free, and estimates that 16% of all travelers are "deadheads." Free travel is estimated at 900 million miles a year or more, worth $50,000,000 or more.

An intelligent railroad passenger program today would involve planning for the 500% increase in traffic foreshadowed in the cent-a-mile experiments. It would involve scrapping a high percentage of all passenger equipment. It would mean re-employing some of the million men who have lost railroad jobs since 1920, and establishing far more frequent schedules than any the railroads have known since 1924. And there is every evidence that it would mean profits for the railroads on their passenger service.

Initiative for such a far-sighted program cannot be expected from present railroad managements, nor apparently from the Interstate Commerce Commission. Direct representation of consumers before the Commission, as well as consumer representation *on* the Commission, might end what Commissioner Porter has called "suicide" passenger policies. Failing drastic action by the Commission, 93 out of every 100 travelers will continue to drive, fly, or take a bus.

Cent-a-mile fares are only half the solution of the railroad passenger problem. The other half involves establishment of frequent, conveniently scheduled, door-to-door, tipless, air-conditioned, mile-a-minute, uninterrupted service in modern equipment. Such service and equipment will be the subject of the second article in this series.

The Docket

Notes on government actions against misleading advertising, false claims, dangerous products

THE following are examples of the scores of actions taken monthly by the Federal Trade Commission and the Federal Food & Drug Administration. Unless otherwise indicated, notices of judgment rendered under the Food and Drug Act refer to individual shipments only.

The Federal Trade Commission has taken action against:

The Griffin Manufacturing Co. The company has agreed to discontinue claims that its wax shoe polishes are waterproof under all conditions of use; that they give brighter or more lasting shines than any other brand or that they are superior to all other brands, unless such statements are substantiated by competent comparative tests. It has also agreed to discontinue claims that *Griffin Allwite* will remove all grease spots and grass stains and is the only shoe cleaner that is good for all-white shoes.

Fee & Stemwedel, Inc., has agreed to cease concealing the foreign origin of the German-made barometer movements in its weather-indicating instruments. It was found that the phrase "Made in Germany" had been concealed on some products and that some products had been falsely labeled "Made in U.S.A." (As the *Reports* go to press the House Ways and Means Committee is considering a bill introduced at the behest of the Treasury Dep't requiring that imported articles shall be marked with country of origin in such a way that the marks will be visible to the ultimate consumer. The bill is designed to clarify present legislation under which the Customs Court admitted Japanese toothbrush handles although they were marked with their country of origin on the portions in which bristles would be inserted.)

The Zephyr Radio Co. has been ordered to cease representing that its products will give world-wide reception whereas in fact they will not, but

are designed primarily for reception in a radius of not more than 100 miles.

The Botay Laboratories has agreed to cease representing that its cosmetic, *Face Line Oil*, will prevent lines or wrinkles on the skin or that it will have any effect on such lines or wrinkles. Admitting that there is no evidence that its products contain a substance which it has designated as "Vitamin F" and described as necessary for the skin, the company has agreed to cease advertising to this effect. It will no longer use the terms "Face Line" or "Vitamin F" or similar terms in the designation of its products.

The Food & Drug Administration has seized:

Lime Juice, Lemon Juice, and ***Lemonina,*** which were found to be adulterated and misbranded. Twenty-six cases of lime juice and 22½ cases of lemon juice shipped by Snow Crest, Inc., consisted of water, fruit juice, added acid and added citrus oils. In the case of 6¾ cases of *Lemonina*, shipped by Chasers, Inc., an artificially colored solution of citric acid, flavored with lemon oil, had been substituted in whole or in part for the advertised article.

Flavored Malt Food Drink, Malted Milk, and ***Marshak's Mixit,*** which were found to be misbranded. All of these products were labeled to indicate that they contained an appreciable amount of malted milk. The first, shipped by the Manhattan Pure Foods Co., contained sugar, cocoa, malt, and a very little, if any, malted milk. Some of the second product, all of which was shipped by the Pyramid Malt Co., contained little, if any, whole milk solids or extractive matter from malt; the rest of it contained only 20% malted milk. *Marshak's Mixit* consisted of a chocolate-flavored sugar and dextrose syrup containing very little, if any, malted milk.

Butter. Armour & Co. of Delaware was found guilty of shipping quantities of misbranded and adulterated butter. The product shipped actually contained less than 80% by weight of milk fat, whereas by an act of March 4, 1923, butter is defined as containing not less than 80% by weight of milk fat.

The Facts About Ice Cream

. . . are somewhat discouraging. Too often it is not clean; much of it contains too much air. Herewith a discussion of types along with comparative listings of New York City brands

HOWEVER widely tastes may differ on the question of ice cream flavors, most people are in perfect agreement as to other aspects of this great American delicacy. Ice cream, for example, should be clean; and, while it needn't necessarily be rich, it should certainly not be grossly or dishonestly inflated with air.

Like other foods, ice cream is no cleaner than the container it comes in. And, at least in the case of bulk ice cream, containers are frequently far from sanitary. They may be stored under the counter where dust is thick or they may be folded into packages by dirty hands. And the dipper used for dispensing the ice cream is often kept in stale "wash" water. Beware, too, of the wooden spoons which are packed with 5¢ ice cream cups. Often they are not wrapped, and if they are handled by the ice cream dispenser the chances for contamination are high.

Nor is the outlook much more cheerful when it comes to brick ice cream. For although CU's survey revealed a somewhat higher contamination in the bulk product, there were nevertheless several bricks which showed higher bacterial count than that permitted by the rather liberal standards of New York City. All of which goes to show that the manufacturer must take his share of the blame for ice cream impurities.

IN New York City, where CU's tests were made, standards specify that one cubic centimeter of ice cream shall contain no more than 100,000 colonies of bacteria and no B. coli (bacteria associated with sewage). The butterfat standard is 10% for plain ice cream, such as vanilla, and 8% for chocolate, fruit, and nut creams. (Practically all States have ice cream standards, with butterfat minimums for plain ice cream ranging from 8% in some States to 14% in others.) The table indicates laxity in meeting even the New York standards.

As shown here, 53 out of 196 samples—27%—or 38 out of 72 brands—53%—contained B. coli. This amounts to 21% of the bulk samples, 36% of the bricks and 27% of the 5¢ ice cream samples. And this in a city that boasts of the thoroughness of its sanitary inspections. A smaller number of brands—about 17%—showed excessive bacteria counts—but eight test samples were close to the maximum line—with between 75,000 and 100,000 bacteria colonies.

While it is necessary for palatability to incorporate some air into the ice cream mix, many manufacturers take advantage of the opportunity to whip in an excessive amount. The Federal Specification of 4½ lb. per gallon (9 oz. per pint) is a liberal one, allowing for about half air. Un-

UNSANITARY ICE CREAM
This sample has a high bacterial count

COMPARATIVELY PURE
This sample contains few bacteria

Test Results on Ice Cream Brands

Based on tests of samples purchased in the New York area.

The order of listing below is based on butterfat content, bacteria count, and B. coli contamination. Comments on taste are given, but since taste is an individual matter, it has not been taken into account in determining the order of rating.

Many brands have been rated down because of high bacteria count or the presence of B. coli or both. It is impossible, however, to determine whether the manufacturer or the retailer is responsible for high bacteria count. And while the presence of B. coli can be held against the producer in the case of brick ice cream, with the bulk product either producer or distributor might be responsible. The number of plus and minus signs under the heading "Presumptive B. Coli" indicates respectively the number of samples of each brand contaminated with and free from the colon bacillus. Where only one out of a number of samples of a brand of bulk ice cream shows the presence of B. coli, it is probable that careless handling in the store is responsible, rather than careless handling in manufacture. The consumer is probably as safe in buying such a brand in a sanitary store as he is in buying a brand in which all samples were found negative.

Brand	Cost Per Pt.[1] (¢)	Av. Butter-fat (%)	Average Bacteria Per cc.	Presumptive B. Coli	Cost Per Lb. (¢)	Flavor
Bulk Ice Cream						
Longchamp's	75[2]	26.7	7,000	− − − −	76	Excellent
Loft's	20	14.6	3,000	− − − −	30	Good
Hershey's	25	12.4	6,000	− −	25	Good
Walgreen's	25	14.4	12,000	− − − −	31	Good
Liggett's	25	13.1	11,000	− − − −	27	Good
Horton's	30	12.1	23,000	− − − −	38	Good
Reid's	30	11.5	32,000	− − − − −	40	Good
Pennsylvania Drug	35	16.3	54,000	− − −	41	Good; vanilla excellent
Childs	35	14.8	49,000	− − −	45	Good
Whelan	30	15.5	58,000[3]	− −	33	Good
Sherry's	45	16.1	79,000[3]	− − −	63	Good
Borden's	30	11.5	76,000[3]	− − − − −	30	Good; fruity strawberry
Schraffts'	55[2]	20.3	25,000	+ − − −	59	Excellent
Cardani French	30	13.7	14,000	+ − − −	32	Good
Breyer's	30	10.8	15,000	+ − − −	31	Good
Farmstead	30	12.4	23,000	+ − − − − −	32	Good; fruity strawberry
Vogt's	30	13.9	31,000	+ − −	40	Good
Smith Bros.	25	12.2	50,000	+ − −	25	Fair; chocolate off-flavor
Dolly Madison	35	17.8	55,000[3]	+ − −	34	Good
Ardee	30	10.8	5,000	+ −	33	Good
Meadow Gold	30	11.6	17,000	+ + − −	31	Good
Horn & Hardart	25	13.9	47,000	+ + − −	27	Good; chocolate off-flavor
Royal	25	10.4	47,000	+ + − −	26	Good
Home Made	25	11.9	109,000[3]	+ − − −	29	Good
Hydrox	30	11.1	73,000[3]	+ + + −	37	Good; chocolate off-flavor
Mayflower	30	11.8	84,000[3]	+ +	40	Good
Brick Ice Cream						
Newbrook DeLuxe	25	12.0	3,000	−	27	Good
Hydrox	30	11.5	16,000	− −	49	Good
Loft's	25	16.2	24,000	−	41	Good
Vogt's	25	15.2	24,000	−	41	Good
Newbrook	20	10.8	15,000	−	29	Good
Horton's	25	11.9	31,000	− − −	40	Good
Reid's	25	11.4	30,000	− −	40	Good
Pilgrim	10	11.3	35,000	−	17	Poor
Breyer's	25	11.7	16,000	+ − − −	39	Good

[1] Price given to nearest 5¢.
[2] Packed in dry ice.
[3] One or more samples contained bacteria in excess of 100,000 per cc.

fortunately, since ice cream is almost universally sold by volume, consumers have no way of knowing how much air they are getting. Sale of ice cream *by weight* should be required by law.

There is no minimum weight requirement for ice cream in New York City, but several State regulatory departments, including the excellent one in North Dakota, and the U. S. Bureau of Standards Specifications, have set it at 4½ pounds per gallon. All the loose ice creams met this standard, but nine of the 27 bricks fell below it.

"SYNTHETIC" ice cream, which is often low in weight, is a somewhat new development in the frozen dessert field. If it is well and honestly made, it should be both satisfactory as a dessert and comparatively economical. For it is manufactured from storage butter and dried or condensed skimmed milk; these ingredients are derived from fresh butter and milk which can be bought at the height of the season when they are cheap and, after suitable processing, stored almost indefinitely.

Unfortunately, however, in synthetic ice cream "overrun"—the manufacturer's polite name for air beaten into ice cream—generally runs very high. In the mouth it gives the impression of "canned wind."

In five synthetic brands out of seven the weight per gallon was below the minimum permitted by Federal Specifications;[1] in the other two brands it was close to the border line. Therefore, though the synthetic product is cheap enough in price per pint, on the basis of price per pound it costs a good deal more than seems apparent from the pint price. The loose ice cream tested by CU weighed up to 1 lb., 2 oz. per pint, and generally was just under a pound; the weight range in synthetic ice cream was 7½ to 9¼ oz. per pint. The weight of an ordinary pint brick was somewhere between the two.

In terms of the amount you get for

[1] These are the regulations by which the Federal Government buys, and are not to be confused with Federal Standards, of which there are none for ice cream at present. Hearings to establish such standards have been tentatively scheduled by the Food & Drug Administration for September 1939.

your money, it's cheaper to buy a pint of ice cream for the family than to get several 5¢ units. Whether these units are ice cream rolls, *Dixie Cups*, or *Pops*, the amount they contain is small and no less contaminated than any other ice cream.

It has been the practice among some manufacturers to rework unsold vanilla ice cream and change it to some other flavor. For this reason, in some parts of the country vanilla is apt to be purer than other flavors.

Two years ago when CU made its last ice cream survey it was possible to say that bulk ice cream was more economical, packaged ice cream more sanitary (see CU *Reports*, Aug.-Sept. 1937). On the basis of tests made this year, no such statements would be justified. Prices, butterfat content and cleanliness of both bulk and brick products varied throughout a wide range; CU's only recommendation is to buy by brand within a type. Brands are listed below in order of decreasing quality. Like certain other food products, ice cream does not lend itself to CU's usual "Best Buy," "Also Acceptable" and "Not Acceptable" classifications.

Longchamps ice cream, at the top of the bulk listing, is unquestionably outstanding as to quality; its butterfat content is about twice that of most brands. Its price, however, is about two or three times the usual price of ice cream; and for this reason, if CU were rating ice creams on the usual price-and-quality basis, *Longchamps* would be no more than "Also Acceptable." Among the "Best Buys" would be *Newbrook DeLuxe* brick, and *Loft's* or *Hershey's* loose.

No story of ice cream can afford to omit mention of the products sold at Coney Island, New York's nationally famous year-in-year-out resort. The sad facts are that 10 samples of frozen custard, both chocolate and vanilla, bought on Coney Island's boardwalk all contained B. coli; three out of 10 contained more than the maximum permissible bacteria count. All these products were manufactured on the premises, possibly with machinery which doesn't see a thorough cleaning from the beginning of the season to the end. The inevitable conclusion to be drawn is that Coney Island frozen custard isn't safe to eat.

Test Results on Ice Cream Brands—Cont'd

Brand	Cost Per Pt.[1] (¢)	Av. Butterfat (%)	Average Bacteria Per cc.	Presumptive B. Coli	Cost Per Lb (¢)	Flavor
Brick Ice Cream—Cont'd						
Hershey's	20[4]	11.1	38,000	+−−	35	Fair; custardy
Borden's	25	12.0	13,000	+−	39	Good
Cardani French	25	14.0	11,000	+	44	Good
Walgreen's	19	16.0	42,000	+−	33	Good
Smith Bros.	15	9.5	27,000	+	28	Fair
Meadow Gold	20	10.2	41,000	+−	36	Good
Mayflower	10[4]	12.0	29,000	+	20	Good
R. G.	15[4]	9.1[5]	58,000[3]	+−	23	Fair
Senator	35 (qt.)	12.5	220,000[3]	−	26	Poor
Good Humor	30	14.4	158,000[3]	+−	52	Good
Cushman's	15[4,5]	12.5	57,000[3]	++++−	25	Good; custardy
"Synthetic" Brick Ice Cream (*Made with butter*)						
Pilgrim	10	11.5	10,000	−−−	17	Poor
Yukon	30 (qt.)	10.2	9,000	−	26	Fair
Foremost	10[4]	11.0	57,000	−−	24	Fair
Clearfield	10[4]	8.6[6]	12,000	+−−−	20	Poor
Blue Ribbon	15[4]	7.9[6]	24,000	+−−−	29	Poor
Royal	30 (qt.)[4]	10.7	17,000	+−	30	Good
Whitelawn	10[4]	9.0	35,000	++++	19	Fair

5¢ Ice Creams

Brand	Type	Av. Butterfat (%)	Av. Bacteria Per cc.	Presumptive B. Coli
Good Humor	Cup	14.0	3,000	−
Mellow	Cup	10.0	2,000	−
Big Bear	Pop	10.7	10,000	−
Breyer's	Cup, Pop, Roll	12.6	21,000	−−−
Senator[7]	Cup	10.0	23,000	−−
Silver Crown	Cup	10.3	25,000	−
Pilgrim	Cup	9.3[6]	17,000	−−
Frozen Products Co.	Cup	11.4	77,000	−
Blue Ribbon	Cup	7.9[6]	63,000	−
Borden's	Cup, Pop, Roll	11.5	67,000[3]	−−−
Horton's	Roll, Cup	10.6	14,000	+−−−−
Foremost	Cup, Pie	11.7	18,000	+−−
Hydrox	Cup, Pop, Roll	12.0	35,000	+−−
Reid's	Cup, Pop, Roll	12.2	37,000	+−−
Mayflower[7]	Cup, Pop	9.8	46,000	++−−−
Kroll	Cup	10.2	16,000	++
Hershey's	Roll, "Gobs"	11.4	21,000	+−
Bungalow	Bar	9.2[8]	32,000	+−
Smith Bros.	Roll, Cup, Pop	11.7	59,000[3]	++−

Frozen Custards

Purchased at Coney Island

Flavor	Bacteria Count per cc.	B. Coli	Butterfat
Vanilla	8,000	+	11.5
	40,000	+	11.0
	63,000	+	13.2
	90,000	+	11.4
	140,000	+	11.7
Chocolate	40,000	+	12.2
	60,000	+	11.0
	100,000	+	11.0
	160,000	+	9.5
	220,000	+	10.2

[3] One or more samples contained bacteria in excess of 100,000 per cc.
[4] Weight per pint below U. S. Specification (EE-1-116) on one or more samples.
[5] Ice cream is available at this price only if purchased in conjunction with other Cushman Bakery products; otherwise 20¢ a pint.
[6] One or more samples below N. Y. State legal butterfat content.
[7] Some products under these brand names sell for 3¢ rather than 5¢.

Shoes for Women

Women buy more shoes than men do, and generally get less for their money. But good values can be found by buyers who know what to look for. Herewith a guide to buying and results of tests on 25 brands

ONE avowed ambition of shoe designers and retailers is to teach women to look upon their shoes as accessories which must be varied to suit each costume. And although this goal is, in the main, still unrealized, the gentlemen in question have made considerable progress. The Tanner's Council — trade association of the leather industry—reports that in 1938 American women purchased an average of 3.75 pairs of shoes, while men bought only 2.1 pairs.

Despite the fact that women are better shoe customers than men, there is one important particular in which they are usually given less shoe value for their money. This item is fit. Results of a survey made on a thousand people by the University of Wisconsin in 1931, showed that only 14% of the women wore well-fitted shoes as compared to 40% of the men. And yet, in women's shoes, as in men's, fit is of the very first importance. It is the major factor in determining comfort, durability, and, in some cases, even physical well being (see CU *Reports*, April 1939). Any shoe should be at least wide enough for the toes to spread out naturally, with each one carrying its share of the weight; but this luxury is quite impossible in most of the women's dress models. These, as a general rule, are definitely harmful to the feet.

It seems on the whole that the feminine trade has been quite willing to sacrifice health and comfort to the demands of fashion; for this reason, among others, women's shoe manufacturers design their products for style rather than for comfort, and it is very difficult for most women to find a comfortable, well-fitted and stylish shoe. It is not, however, impossible. Some of the brands rated by CU should, if properly fitted, answer the demands of both comfort and style.

In general, CU's tests showed that the best values in women's shoes are those in the $5 to $7 price range. There are also good buys in the $4 to $5 class, but at much less than $4 the only shoes worth buying will probably be those intended only for occasional use, such as certain evening shoes and novelty styles. Above $9 a large part of the cost is represented by style; quality does improve in other respects, but not in proportion to price.

Notes on Quality

SHOE quality depends chiefly on design, materials and workmanship. One way or another, quality is not infrequently sacrificed to economy. In order to save on lasts and patterns, shoes are often made over lasts which are not suited to their particular style. And although shoe uppers of each size and of each width within the size should be cut on separate patterns, it is a not uncommon practice to use the same pattern in cutting uppers which are intended for various widths of a given shoe size. The results of such economy are poorly designed shoes which are usually difficult to fit.

There is a great variety of commonly used shoe materials—so many that CU cannot attempt to discuss them in detail here. Particularly important in any shoe is the quality of the upper leather, for, since it cannot be replaced, it quite often governs the life of the shoe. A poor insole will ruin the best of shoes and possibly the best feet. The use of inferior materials in the insole causes lumpiness, which may create discomfort and foot weakness. Therefore, it is almost equally important that the insole be of good quality leather—preferably full grain, though some of the splits which are used in the cheaper shoes may be acceptable. The best counters are of leather, although pressed fiber and "leather board" are acceptable substitutes for dress shoes which are not subjected to heavy wear. Paper counters wear poorly and are indicative of poor shoe construction. Important, too, is the fact that despite present fashion trends, shoes should have a back.

Good workmanship is one of the most important of the factors which determine durability and comfort; it

Results of Tests on Women's Shoes

Table shows comparative ratings on design, workmanship and materials. The scores are weighted—the theoretically perfect shoe would get 20 on design, 25 on workmanship and 55 on materials.

Brand	Price ($)	Average Design Score	Average Workmanship Score	Average Material Score	Total Average Quality Score
Florsheim	10.50	16	24	45	85
Dr. Locke	10.98, 11.89	16	22	47	85
I. Miller-Ingenue	7.75, 8.75	16	22	44	82
Arch Preserver	8.75	16	22	44	82
Vitality	6.00	15	21	41	77
Pedi-Poise	9.75	16	21	39	76
Rhythm Step	7.50	16	21	38	75
Natural Bridge	5.50, 6.00	16	22	37	75
Red Cross	6.50	14	21	39	74
Biltmore	7.50	16	21	36	73
Henry Mann	6.75	16	19	36	71
Air-Step	6.00	16	20	35	71
Walk-Over	4.95, 6.50	15	19	36	70
Regal	3.95, 4.95	15	20	35	70
A. S. Beck	4.00	15	19	35	69
Tango Pump	7.00	16	21	32	69
Young Modern	6.50	15	18	34	67
Lady Douglas	3.65	16	20	31	67
Enna Jettick	5.00, 6.00	15	20	32	67
Wise	4.00	14	18	31	63
Thom McAn	3.00, 3.30	15	18	29	62
Simco	3.00	14	17	30	61
Educator	3.00	14	18	27	59
Miles	2.98	15	18	23	56
Air-Ees	1.98	12	9	22	43

is also one of the most difficult to appraise in the laboratory. The most expensive shoes usually have hand labor in them and are sometimes hand-lasted—that is, they are shaped by hand over the wooden form known as the last. These products retain their shape and appearance much longer than those which are lasted by machine.

Construction

THE National Bureau of Standards lists 40 individual types of shoe constructions under eight main classifications.[1] Many of these constructions look enough alike so that most consumers would have considerable difficulty recognizing them. Moreover, although there is some opinion to the effect that the Goodyear welt is the most durable, and easiest to repair, tests made by the National Bureau of Standards indicate no significant difference, in either of these respects, as between the various types. (An exception is the "turn" shoe, which has only one sole and is therefore often impossible to repair.) For these reasons, detailed information on construction would be of little value to most consumers. They may, however, find it useful to remember that Antioch College, which has done considerable research on shoes, considers the "turn" first choice for dress wear and the "welt" first choice for daytime and sports wear. The shoe salesman should be able to help you select either type. Look for flexibility in the welt; the more flexible, the more comfortable.

The Testing Problem

SHOES, and especially the varied field of women's shoes, offer some complicated and relatively unexplored problems to the laboratory tester. Says the National Bureau of Standards:

"The behavior of shoes in service apparently offers a virgin field for research, especially in relation to what can be done in the laboratory."

In the past CU's shoe ratings have applied only to one model of the brand tested. CU has been well aware of the limited value of such a report and therefore the tests this year were conducted partly as an experiment to determine the practibility of rating an entire shoe brand on the basis of tests on several models. Test results showed considerable correlation within a brand;[2] enough so that CU feels that the ratings which follow can with reasonable assurance be applied to the entire brand in the price lines tested.

The ratings are based on laboratory tests and examination by a shoe expert. Some 30 points, covering design, workmanship and materials, were considered.

Where available, models representing four types of shoes were tested; insofar as possible similar styles were selected in each type. Pumps, "step-ins," medium-heel walking shoes and saddle oxfords were the types tested.

The prices listed below represent the price range of the models tested. Some models, however, may sell for less than their marked price in the "outlet" stores which are found in large cities. These models are chiefly manufacturers' cancellations and rejections. Sometimes they are bargains; remember, however, that the outlet stores rarely have a complete size range in any model and hence are particularly likely to try to sell you a misfitted shoe.

For the benefit of Canadian members of CU four shoe brands of Canadian manufacture, sold chiefly or exclusively in Canada, are included in the ratings. In general their prices were somewhat higher than those of American shoes of equal quality. Only one pair of shoes of each Canadian brand was tested.

A BEST BUY IN THE MEDIUM PRICE CLASS

These shoes are "well-designed, attractive." The brand is Natural Bridge

The ratings below are in approximate order of quality without regard to price.

Florsheim (Florsheim Shoe Co., Chicago). $10.50. An excellent shoe except for counter.

Dr. Locke (Julian & Kokenge Co., Columbus, Ohio).[3] $10.98 to $11.89. Excellent design. Good workmanship and materials.

I. Miller—Ingenue (I. Miller & Sons, Long Island City, N. Y.). $7.75 to $8.75. Good shoes but quality of different models variable. The lower priced shoe tested was found to be the best.

Arch Preserver (Selby Shoe Co., Portsmouth, Ohio). $8.75. Well designed and well made. A good buy in this price field.

Vitality (International Shoe Co., St. Louis). $6. A fairly good shoe.

Pedi-Poise (retailed by Florsheim Shoe Stores). $9.75. A good shoe

[1] Main classifications are welt, McKay, Littleway, turn, stitchdown, nailed, cemented and moccasin. About 87% of men's dress shoes and 19% of women's are of welt construction. Most of the other women's shoes are McKays, Littleways or cemented.

[2] Some inconsistencies in test results were caused by variations in style value, usually of the dress shoes. Style values cannot, of course, be determined with accuracy.

[3] *Dr. Locke* shoes are manufactured by firms in the U. S. and Canada. The quality rating that CU gives these shoes does not in any sense imply endorsement of the elaborate advertising claims made for them. The foot manipulations of Dr. Locke himself in the treatment of various diseases have been repeatedly exposed as quackery and the shoe is advertised as "a part of the Dr. Locke treatment." CU's rating is of the shoe as a shoe and not as a part of any medical treatment. CU again warns that foot disorders must be treated and prescribed for by competent orthopedic physicians.

but overpriced. Model 2095 tested. Rating applies to this model only.

Rhythm Step (Johnson, Stephens & Shinkle Shoe Co., St. Louis). $7.50. Attractive shoes of good materials. Consistency of quality very good.

Natural Bridge (Craddock-Terry Co., Lynchburg, Va.). $5.50 to $6. Well-designed, attractive shoes. Fair workmanship and good materials. A "Best Buy" in medium price class.

Red Cross (United States Shoe Co., Cincinnati). $6.50. About same quality as *Vitality*.

Biltmore (Blachford Shoe Mfg. Co., Toronto). $7.50. Model 654-4 tested. A Canadian shoe. About same quality as *Red Cross*.

Henry Mann (retailed by Florsheim Shoe Stores). $6.75. A fair shoe but overpriced. Model 70 tested. Rating applies to this model only.

Air-Step (Brown Shoe Co., St. Louis). $6. Fair design and materials. Only one model tested.

Walk-Over (George E. Keith Co., Brockton, Mass.). $4.95 to $6.50. Medium grade shoe.

Regal (Regal Shoe Co., Whitman, Mass.). $3.95 to $4.95. A good buy in the lower price field.

A. S. Beck (A. S. Beck Shoe Stores, NYC). $4. A good buy in the lower price field.

Tango Pump (manufactured in Canada by Perth Shoe Co., Perth, Ontario; in the U. S. by Brauer Bros. Shoe Co., St. Louis). Samples of this, a popular brand of pump, were purchased in both Canada and U. S. Cost in Canada, $7; in the U. S., $6.85. Quality of two samples about the same. This pump is made over the same patented last in both cases.

Young Modern (Selby Shoes, Ltd., Montreal). $6.50. Model 61125 tested. A Canadian shoe. About same quality as *A. S. Beck*.

Lady Douglas (W. L. Douglas Shoe Co., Brockton, Mass.). $3.65. Quality in different models at same price found quite variable.

Enna Jettick (Dunn & McCarthy, Inc., Auburn, N. Y.). $5 to $6. Good value in low heel walking shoe but poor value in other types.

Wise (Wise Shoe Stores, NYC). $4. Unlikely to give satisfactory service.

The quality of the following brands is too low to warrant purchase except for occasional wear or for novelty or style value.

Thom McAn (Thom McAn Shoe Stores, NYC). $3 to $3.30. Quality generally poor.

Simco (Simco Shoe Stores, NYC). $3. Design good, but workmanship and materials poor.

Educator (Educator Shoe Co.). $3. Well designed but very poor workmanship and materials.

Miles (Miles Shoe Stores, NYC). $2.98. A poor shoe on all counts.

Air-Ees (Hewetson Shoes, Ltd., Brampton, Ontario). $1.98. Model 231 tested. A Canadian shoe. Quality much too low to warrant purchase.

QUALITY TOO LOW TO WARRANT PURCHASE . . . .

These shoes are "poor on all counts." The brand is Miles

The Labor Reporter

Unfair

THE National Maritime Union is leading a nation-wide boycott against the products of Standard Oil and its affiliates: Socony Vacuum, Tidewater Associated and C. D. Mallory.

Factual information supplied by the union indicates that Standard Oil had used every means, legal and illegal, in its successful effort to break the strike of seamen operating its tankers. Although the strike failed, the union is continuing the fight for recognition and collective bargaining.

Says the National Maritime Union in its appeal to consumers: "Every gallon of Standard Oil gas in your car means dollars in the strike fund of Standard Oil. Buy no Standard Oil products until this industrial octopus signs on the dotted line with the National Maritime Union."

Among Standard Oil products, other than gasolines: *Daggett & Ramsdell* cosmetics, *Flit* insecticides, *Mistol*, *Nujol*, and *Cream of Nujol*.

Anti-Union Soap-Maker

THOSE members who recall CU's March report on the unenlightened labor policies of J. Eavenson & Sons, soap manufacturer, will not be surprised to hear that 200 members of the United Soap Workers Industrial Union (CIO) are in the fourth month of a strike against that company. The strike was precipitated when workers in the plant were fired because they sought union recognition.

Said CU in March: "The company . . . is strongly anti-union. . . . Average female wage, $13 per week or less. . . . Average men's wage, $18 per week. . . ."

J. Eavenson & Sons manufacture *Bridal Bouquet* and private brands for Associated Merchandising Corp., Arnold Constable, B. Altman & Co., Bloomingdale's, Hearns, Macy's and Jas. McCreery & Co., Helena Rubinstein, and Lucien Lelong in New York City as well as The Emporium in San Francisco.

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Consumers Union Reports
MEDICAL SECTION
Dr. Harold Aaron
Special Medical Adviser

IN THIS SECTION

. . . CU members will find articles on medical news and opinion; authoritative medical discussion of foods, cosmetics and drugs; reports on questions of public health and health legislation in the United States.

Members of CU's Medical Advisory Board (listed on this page) are consulted on all matters of medicine reported on which lie within their fields. Consumers Union and its Special Medical Adviser are responsible for all expressions of opinion in regard to other questions considered.

The Medical Section appears regularly each month as a department of Consumers Union *Reports.*

The Skin and Hair In Summer

by MARION B. SULZBERGER, M.D.
and RUDOLF L. BAER, M.D.

DURING the Summer the skin is exposed to a number of influences which are comparatively inactive during the rest of the year. Some are beneficial, some are not. But even those which are potentially most favorable can become a source of serious discomfort—even of danger—unless you know some simple facts and observe some simple cautions.

On the whole, the skin of most normal human beings is in better condition in the Summer than in the Winter. This is particularly true of the facial complexion. Here are the most important reasons for the improvement:

1. Increased exposure to sunlight has a stimulating effect upon metabolism, vitamin formation, pigment formation. Where it causes a constant moderate peeling of the skin it has also a regenerative effect on the topmost skin layers.

2. Warm weather stimulates the oil and sweat glands and softens the greasy materials which might otherwise tend to plug the openings of the glands. Indirectly, also, it stimulates general metabolism and the excretion of substances through the more active skin glands.

3. The additional exercise which most people take during the Summer increases circulation; it improves general health and thus also the skin and the skin glands.

In general, and in proper quantities, the sun, heat and the additional exercises all help to prevent the skin dryness and roughness from which many people suffer in Winter. These natural factors are generally a substitute for and an improvement upon such cold weather measures as greasing the skin to keep it smooth and soft. However, they by no means obviate the necessity of caring for your skin. Summer particularly is the season to be scrupulously careful in removing dust and dirt; such material is frequently caught in secretions, particularly in skin folds where moisture cannot readily escape.

To keep the skin clean and to avoid heat rash you will be wise to take a shower or bath twice daily if possible, and to wash with a good white soap[1] and water. After bathing, dust yourself with unscented talcum powder in those areas of the body where parts of the skin rub against or touch each other.

Your Hair in Summer

THE hair or the scalp should never be exposed to the sun for any prolonged period. Be particularly careful to observe this rule if you are bald, if you have thin, dry or falling hair, or if you suffer from dandruff; experience has shown that prolonged exposure to the sun will often tend to make such conditions worse. Any lightweight, well-ventilated, wide-brimmed hat or cap will afford the necessary protection, and is, of course, especially important on the beach or lawn.

If you are careful to protect your scalp against overexposure to sunlight you will find that it is quite unnecessary to subject yourself to any of those "treatments" which, according to the advertisements, will bring you power, poise, love and fame along with a luxuriant head of hair. No 60-second or 2-hour "workout," no extra "skin vitamins" and no "World's Leading Hair Experts" are either useful or necessary at any season of the year. If you are suffering from a scalp disease, consult a good physician.

After frequent ocean bathing the scalp hair may have a tendency to become unusually dry. In that case, white petrolatum (vaseline) or brilliantine will help keep it smooth and orderly. There is, however, no adequate proof for the contention that frequent bathing and wetting of the scalp and hair inevitably tend to make it excessively dry.

Sunburn

IF YOU expose your skin to sunlight in gradually increasing doses you should be able to avoid a severe burn. However, every individual has his or her own particular

[1] For soap ratings, including information on the relative purity of various brands, see CU *Reports,* March 1939.—Ed.

RECKLESS

basic tolerance for sunlight, and amounts which will scarcely cause redness in one individual may burn another severely. There are some persons, sensitive to sunlight, to heat, or to both, who can never acquire even the slightest tolerance; such unfortunates are forever banned from Summer beaches and outdoor sports.

One important factor in determining the basic tolerance of the skin for sunlight is the variable thickness of the horny layer of the skin surface. Thus, for example, the palms and soles, with their thick horny layer, are practically immune to sunburn and also fail to become tanned. Usually—although by no means inevitably—people with dark complexions have a higher degree of tolerance for sunlight than persons with light complexions.

But whatever your complexion, be sure to acquire your suntan gradually. [For suggestions on methods of obtaining a tan in this way and for information on sunburn preventives, see page 21—Ed.] If the burn is too severe subsequent peeling of the skin is so marked that part of the pigmented cells are cast off, thus reducing the amount of brownish tan acquired.

In this peeling process you may also lose much of the beneficial vitamin D—and possibly other valuable substances which have been produced by the effect of the sunlight on the skin. Moreover, the brownish pigmentation—which generally appears about three days after exposure to the sun—itself forms a protection against further exposure. Thus it is usually one of the causes of increased tolerance, although in some cases tolerance does not increase in spite of the pigmentation and, in other cases, increases without it.

A word of warning against the use of eau de cologne or perfume on skin which is exposed to sun: these cosmetics frequently contain oil of bergamot or other types of essential oil which sensitize the skin of susceptible persons against ultra-violet rays and occasionally cause spotty brownish discoloration (pigmentation but not freckles) and inflammation (dermatitis) of the skin.

Once you have acquired a sunburn be sure to use only some simple and safe treatment such as that described below. Many of the advertised sunburn remedies are either potentially harmful, or useful only for certain stages of sunburn. For example, preparations containing so-called "local anesthetics" (i.e., chemicals designed to stop pain or itching by deadening the skin-nerves) such as nupercaine, butesin, benzocaine, &c., sometimes cause severe reactions in allergic patients—reactions which a layman would often be unable to differentiate from a sunburn. In these instances the sufferers usually continue the medication, which, because of its anesthetic action, may cause temporary relief, but is nevertheless the actual cause of the persistance and severity of the "burn." There is also a possibility that the anesthetic agent itself may be absorbed through the skin and cause toxic effects.

"Cod-liver oil" ointments, while possibly useful for certain skin disorders, are of no value in the treatment of sunburn. Jellies containing tannic acid (*Amertan, Metanic Jelly* and *Tannafax*) are of value for severe burns in which skin is destroyed and there is danger of infection. Under the circumstances a physician must prescribe the treatment. And in any case if the following treatment does not suffice, don't try further self-medication or advertised remedies: consult a competent physician.

REPENTANT

Sunburn Treatment

WHEN the redness appears, dust fine unscented talcum powder on the affected parts every 1 to 3 hours. The powder will do little to alter the condition itself, but it will have a soothing effect, and in the milder stages of sunburn—for which this treatment is indicated—the skin changes are so transitory that relief of symptoms is the main purpose of treatment.

If the redness is accompanied by swelling or blisters apply wet dressings to the skin. These should consist of closely meshed material such as soft cotton or linen (not gauze) folded to make several layers and should be thoroughly wet in one of these solutions:

1. *Boric Acid Solution:* one teaspoon of boric acid dissolved in a tumbler of tap water.

2. *Solution of Aluminum Acetate N.F.* (Burow's Solution): diluted in 20 parts of cool tap water.

3. *Potassium Permanganate Solution:* a one-grain tablet of potassium permanganate dissolved in a quart of water.

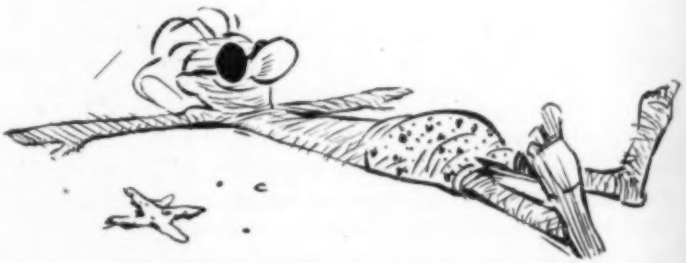
4. *Plain Water:* boiled for 20 minutes and allowed to cool. To be used if none of the above is available.

Apply the wet dressing for several hours and keep it constantly wet.

Calamine Lotion N. F. or *Calamine Emulsion N. F.* are also useful in treating extensive areas.

When the inflammation has subsided and the skin continues to peel, it may be "smoothed" by massaging it with pure olive oil or mineral oil.

For severe sunburn over large areas and for cases in which general symptoms appear, consult a physician imme-



AT PEACE WITH THE SUN

(*He read this report*)

diately. Severe and extensive sunburn, like any other burn, may have serious results.

Skin Eruptions

UNLESS you are interested in conducting a decidedly dangerous experiment you will not attempt to cure a skin eruption by exposing it to the sun. It is true that sunlight is beneficial to many mild eruptions of this type. But it is equally true that others—lupus erythematosus, argyria, certain drug rashes, to name a few—which are seemingly mild, are often seriously aggravated by sunlight. In some cases a most innocent looking skin blemish may spread, penetrate, become incurable, disfiguring or even dangerous when it is exposed to sunlight. Skin specialists see many such cases each year; they even encounter instances in which mild eruptions become fatal and incurable diseases after they have been exposed to the sun.

For these reasons be sure that before you try to cure a blotch, pimple or other skin eruption by exposure to sunlight, you consult a physician—a skin specialist if necessary—as to whether or not the eruption is the type which will be aggravated by such treatment. Remember also that undoubtedly there are certain predisposed persons whose skin tends to dry and age, and sometimes to develop warty growths or skin cancers after years of repeated exposure to the sun and other elements. For sunlight, one of the most vital and essential of the elements necessary for life and health is beneficial only when it is wisely used, and even then not to all individuals. In abnormal and excessive amounts, or to persons with abnormal reactions of the skin or other organs, it may be very harmful indeed.

Antiseptics

CU herewith concludes its series on the history and use of antiseptics with a partial listing of the many which are "Not Acceptable"

IN THE *Reports* for April, May and June, CU discussed antiseptics, their history, their uses, their comparative value. "Acceptable" antiseptics, with some notes on each, were listed in the June *Reports*. In this issue CU concludes its report with the following list of products, which, with the exceptions noted, are "Not Acceptable":

Mercurochrome, aqueous or alcohol-acetone-aqueous solution (see CU *Reports*, May 1939).

Hexylresorcinol Solution S. T. 37. Not an efficient first-aid antiseptic, though hexylresorcinol, the chief ingredient of the solution, does have legitimate uses in medicine.

Absorbine, Jr. Widely advertised for the treatment of "athlete's foot," for which there are much more effective and less expensive remedies (see CU *Reports*, June 1939).

Lysol. Actively germicidal, but too toxic for use on or in the human body. May be used for disinfecting inanimate objects if the odor is not considered too objectionable. Saponated Solution of Creosol, U. S. P. is a less expensive nonproprietary equivalent. Do *not* use *Lysol* or its pharmacopeial equivalent as a douche; thus used, it has caused severe poisoning.

Phenol (carbolic acid). Corrosive and poisonous.

Mercuric Chloride (bichloride of mercury, corrosive sublimate). This substance and the similar potassium mercuric iodide are actively germicidal, but they are very poisonous and should not be kept in the home.

Silver Preparations (e.g., mild and strong silver protein, U.S.P., *Argyrol, Protargol, Silvol, Neo-Silvol, Collargol, Lunosol, Silver-Col,* silver picrate, silver nitrate) should be used only by or under the direction of a doctor or dentist. Their indiscriminate use may lead to "argyria" (also called "argyrism"), a permanent bluish discoloration of the skin and mucous membranes, caused by deposits of insoluble silver in the tissues.

Colorless Solutions of Iodine. These do not contain free iodine, hence are not appreciably antiseptic.

Chlorine Antiseptics (e.g., solutions of sodium hypochlorite—*Zonite, Hyclorite;* chloramine-T—*Chlorazene;* dichloramine-T; *Azochloramid*). These are useful preparations, but they are more valuable for the *treatment* of infected tissues—by wet dressings or by irrigation with properly diluted solutions—than for first aid. They should be used only under the direction of a physician. The repeated use of *Zonite* as a douche, for instance, may lead to irritation sufficiently serious to require medical attention. Some of the products of this class have a limited usefulness for the disinfection of inanimate objects (see CU *Buying Guide,* 1939, "Deodorants and Disinfectants").

Dyes (e.g., acriflavine, gentian violet, brilliant green, scarlet red, carbol fuchsin, bismuth violet). Not recommended for lay use.

Oxidizing Agents (e.g., hydrogen peroxide, sodium perborate, potassium chlorate, potassium permanganate). Hydrogen peroxide may be used for bleaching hair, and if care is exercised, potassium permanganate may be used externally in very dilute solution (see CU *Reports,* June 1939, "Athlete's Foot"). But otherwise the oxidizing agents should be employed only under medical or dental direction. The indiscriminate use of sodium perborate (e.g., *Vince*) in the mouth may lead to ulceration and "furry" tongue, caused by the liberation of strong alkali in the oxidizing process. Neither hydrogen peroxide nor any of the other oxidizing agents mentioned is suitable for use as a first aid antiseptic.

Antiseptic Dusting Powders (e.g., *Vioform*). Not recommended for lay use.

Unguentine. Long promoted as a treatment for burns, now touted as a "modern" antiseptic. Not recommended for either purpose.

Health Warning

A RECENT smallpox outbreak in upper N. Y. State sounds grave warning that much health protection in the United States is still dangerously inadequate. The outbreak occurred in a State which has one of the best public health services in the country; it was no isolated incident, nor did it come without warning. In 1937, there were 11,673 cases of smallpox reported in the U. S.; and this country led all the world except India in the incidence of smallpox. In 1938 the number of cases here rose to approximately 15,000—the highest level for five years.

The disease in its current form is relatively mild, but there is a serious possibility, according to the U. S. Public Health Service, that it may again become malignant and reach epidemic proportions, as it did in Denver in 1921 and in Minneapolis in 1924. The one specific preventive measure that will control smallpox is vaccination. CU strongly urges that all persons who have not been successfully vaccinated within five years immediately obtain this simple, safe and certain protection. Consult your physician, or any State, City or County Health Clinic.

Mouthwashes

They don't sterilize the mouth and they don't cure halitosis. Even if you like the taste of mouthwash, you don't need expensive ones

IF EVERY advertised mouthwash were suddenly to disappear from the market, mankind would suffer no great loss. For the most effective of the commonly used mouthwashes are at best weakly antiseptic; many do not even inhibit the growth of bacteria, much less kill them. And it is impossible completely to sterilize the mouth and throat even with the strongest antiseptic. The normal mouth needs no "wash"; brushing the teeth is sufficient for oral cleanliness. And, despite the advertisements, there is no good evidence that any of the popular mouthwashes are appreciably effective in preventing or treating colds and sore throats (see CU *Buying Guide*, 1939).

If you suffer frequently from offensive breath—even if you do not fear the social ostracism promised by *Listerine's* infamous "halitosis" ads—consult your doctor or your dentist; if necessary, see them both. A medicated solution swished about the mouth can do little more than mask the offensive odor with the aroma of the solution. This effect is brief at best, and it is often debatable which odor is preferable. A persistent malodorous emanation from the mouth or nose usually indicates decayed teeth, some disorder of the mouth, nose, throat or gastro-intestinal tract, or a metabolic disturbance. Neither *Listerine* nor its competitors will cure such conditions.

But if you want to use a mouthwash, either because you like the taste, or for any other reason, CU suggests one of two official preparations described in the National Formulary.[1] These have all the advantages—such as they are—of the widely advertised brands and are much cheaper: Alkaline Aromatic Solution, N.F. and Antiseptic Solution, N.F. (The former is not appreciably antiseptic, the latter mildly so.) Warm salt water is also not to be despised (a dash of sodium bicarbonate may be added for its solvent effect on mucus, if desired).

LAST year the office of the State Food Commissioner and Chemist of North Dakota examined 54 antiseptics and mouthwashes for compliance with the North Dakota Food and Drug Act.[2] Said the officials in their report:

". . . The purchaser who desires an antiseptic should read the label carefully. Unless the label specifically claims antiseptic properties, he is reasonably certain to get a mouthwash whose principal cleansing action is the mechanical removal of germs and debris for which warm salt water would probably serve equally well. The 'tang' and pleasant taste of a mouthwash are too often mistaken for an antiseptic action.

"Even preparations which may correctly be called antiseptic on the basis of laboratory tests, do not entirely cleanse the mouth of bacteria as innumerable crevices exist in the mouth and throat into which the wash probably never penetrates. Saliva, bits of food between the teeth, and other organic matter combine with the gargle . . . thus reducing the concentration of the active principle. It must also be remembered that the N.F. test for antiseptic properties allows for a five minute contact period of the organism and the solution being tested, while in actual practice it is rarely that a mouthwash is retained in the oral cavity for more than a few seconds."

Of the 54 products examined, only three were not misbranded according to the terms of the Act. Twenty-three were short of the volume claimed on the label. The manufacturers of 13 products in the group made no claims of antiseptic properties. Thirty-nine of the 41 solutions alleged to be antiseptic bore no indication on the labels of the time interval required for killing bacteria and 20 failed to indicate the dilution in which this effect is claimed. Only 33 preparations in this group were found actually to be antiseptic even when tested according to the very liberal standards prescribed for the N.F. Antiseptic Solution mentioned above, and of these, 21 were effective only when used *undiluted*. Eight were not antiseptic even when measured against these requirements. Only one of the 13 solutions not claimed to be antiseptic was found actually to be so.

The bacteria normally in your mouth won't hurt you, and even if they were as deadly as the ad-writers claim, your own tissues offer far better protection than any commercial mouthwash.

Not Acceptable

Analka
Antiseptic Solution 59
Astring-O-Sol
Calox Antiseptic
Dent-A-Tone
Dr. Lyon's Mouthwash
Glyco-Thymoline
Hospital Antiseptic Solution
Klenzo Antiseptic
Lav-O-Din
Lavoris
Listerine
Mifflin Astringent Mouthwash
Mi 31 Solution
Orosan
Orygene
Pepsodent Antiseptic
Purity Antiseptic
Rubizan
Thymola Antiseptic
Tonsiline
Vick's Voratone
Vitasan
Watkins Antiseptic

[1] One of the compendiums which set up standards recognized by the Federal Food, Drug and Cosmetic Act.

[2] The North Dakota law requires statements of volume, alcohol content, active ingredients, directions for use; and if the solution is claimed to be antiseptic, the dilution in which the antiseptic action occurs and the time required to kill bacteria in this dilution.

Sunburn Preventives

. . . have been improving in efficiency. Main question for consumers to decide now is the degree of protection they want; CU's ratings of 37 brands tell which products should provide it, and at what cost

ON BEACHES, rooftops and on lawns the sun worshippers gather every Summer in search of a becoming suntan. Proof that the search is difficult lies in those crimson, blistered, freckled, peeling victims who suffer so visibly through the first weeks of Summer—often because they miscalculate the sun, their skins or their sunburn lotions.

The first of these items is the skin. Some people never tan—they merely burn. Others tan unevenly—they freckle. Most people, however, can tan without burning seriously, if they take their sunshine in graduated doses.

Next, the tan will depend on the kind and intensity of the sunlight. The sun's rays are of many different wave lengths, not all of which produce burning or tanning. The intensity of the invisible burning rays *cannot*, therefore, be judged with any degree of accuracy from the intensity of visible light or the heat; hence those unexpectedly severe burns obtained on semi-cloudy days.

Most people know that the intensity of the burning rays is much greater at midday than in the forenoon or afternoon. It is less generally known that the angle at which the rays hit the skin is also important—that perpendicular rays act much more strongly than oblique. And it is frequently forgotten that the ultra-violet rays which cause the burning or tanning are strongly reflected from sand, water and snow, and scattered by particles in the air, so that the "sky-shine" is sometimes as strong as the sunshine.

Finally, the latitude, the altitude, the weather, and the amount of smoke in the sky have an effect on suntanning.

Close-woven fabrics stop the sun's rays almost entirely. Beach clothing, therefore, is extremely useful if you want a measured dose of sunshine. Just be sure to remember—as many people don't—that whenever you slip out of such clothing for a swim you are once more exposed to the sun. Beach umbrellas or sunshades, on the other hand, do not give complete protection. And sunburn preventives, all of which act by stopping or decreasing the burning rays, yield only limited safety.

Whatever method or preventive you use, be careful the first few times you tempt the sun. No lotion is infallible and all should be reapplied every hour and after each swim.

SUNBURN preventives come in the form of oils, creams or lotions. Although the oils have a greater resistance to water than most preparations of other types, they are also messier and have lately been losing in popularity. Some lotions and creams cover the skin with a nearly opaque film, while others stop only the burning and tanning rays and are transparent to visible light.

CU knows of no preparation which will permit only tanning, without burning, or which will safely *promote* tanning. The portions of sunlight which cause burning and tanning are so nearly the same that there is no practical possibility of securing a tan without exposure to rays which can also cause burning. The best a sunburn preventive can do is to permit you some degree of control over the amount of burning-tanning rays which reach your skin. The most efficient way to tan is to limit each exposure so that it produces just a very faint redness.

There are two methods by which a sunburn preventive can help you to attain a tan without the painful burn. First, you can expose yourself for a limited period without protection, and then use a preventive rated "Good Protection." Second, you can apply a preventive rated "Fair Protection," and let a fraction of the burning rays reach your skin during the entire period of exposure. The difficulty with the second method is that you won't know what fraction of these rays comes through.

A sunburn preventive is not satisfactory merely because it absorbs the burning rays of the sun. It should also have a satisfactory color, odor and physical consistency. It should not cause permanent stains on bathing suits or beach clothing. If it is liquid it should leave a uniform film on evaporation—otherwise it may produce a mottled tan. It should resist the action of fresh and salt water, air and sun-

SUN WORSHIPPER

But the first commandment is: "Be careful"

SKIN TEST RESULTS

A dark square means an inefficient preventive; the darkest square (on the right) was covered by Helena Rubinstein Sun-Tonic

light. Finally, it should not tend to irritate the skin or tend to cause allergic reactions, or permit the absorption of any toxic ingredients.

Correct packaging is another important item. Semi-solid preparations are less likely to become contaminated with sand if they are packed in tubes rather than in jars. Tubes with attached caps are convenient. Liquids should come in bottles with narrow dispenser openings which help minimize waste. (Particularly convenient packaging is noted in the ratings.)

THIS is the fourth year CU has tested sunburn preventives. Since 1936 technical progress in perfecting sunscreen chemicals has considerably increased the number of effective brands on the market. There is now much less excuse for a poor sunburn preventive, and CU's standards are proportionately more severe.

As in 1938, the brands tested were subjected to both spectrographic and skin tests. Spectrographic tests were made by passing a beam of ultra-violet light through a thin film of the preventive in a quartz cell. The beam was then spread out into its constituent wave lengths by the spectrograph prism, and photographed (see cut).

These spectrographic tests were then checked by carefully controlled skin tests on volunteers from the CU staff. In a few cases, noted in the ratings below, the results of the two tests did not correlate. One possible explanation of this discrepancy may lie in the fact that some sunscreen chemicals which show high efficiency when first used in the sun, lose their effectiveness on continued exposure, while others may actually be improved by exposure to the sun.

Remember that sunburn *preventives* are not the same as sunburn *remedies*, despite the fact that some preparations claim to serve both purposes. If you need a remedy, buy one separately (see page 17). And remember that:

1. *CU could not test these preventives for possible irritating effects, which vary with individual skins, nor for possible toxicity; if any unusual symptoms are noted, wash off the preventive at once, and discontinue using it.*

2. *It is absolutely essential that first exposures to strong sunlight be limited even when the most effective preventives are used.*

Good Protection

(In approximate order of merit)

All the following brands gave good results in both spectrographic and skin tests. Unless otherwise noted, they were not only effective, but generally satisfactory. However, for persons who do not burn easily, and want a deep tan, these brands may provide too much protection, and one of those listed under "Fair Protection" may be preferable.

Quinlan Sunburn Lotion (Kathleen Mary Quinlan, NYC). $1 a bottle; 25¢ per fl. oz.

Daggett & Ramsdell Perfect Sun Lotion (Daggett & Ramsdell, NYC). $1 a bottle; 29¢ per fl. oz.

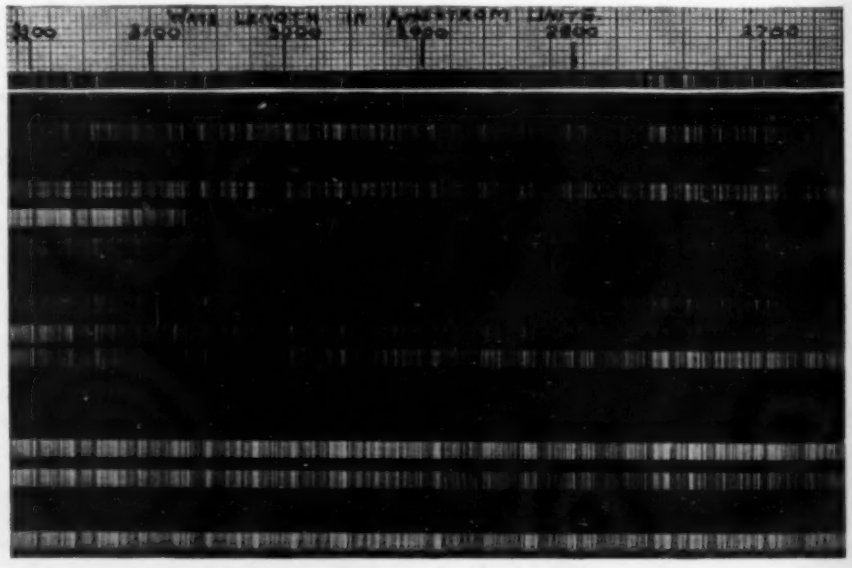
Xpose Sun Tan Cream (Walgreen Co., Chicago). 50¢ a tube; 33¢ per fl. oz.

Ardena Sun-Pruf Cream (Elizabeth Arden, NYC). $1 a tube; 34¢ per oz.

Ritztone Sun Oil (Charles of the Ritz, NYC). $1 a bottle; 16¢ per fl. oz. Greasy.

Daggett & Ramsdell Perfect Sun Brown Oil (Daggett & Ramsdell). $1 a bottle; 18¢ per fl. oz. Greasy.

Herbal Sun-Oil (Frances Denney, Philadelphia). $1 a bottle; 25¢ per fl. oz. Greasy.



SPECTROGRAPHIC TEST RESULTS

The darkest absorption bands in the burning range (approximately 2,900-3,200 Angstrom units) indicate the brands offering the most efficient protection. By number, the brands represented above are as follows: 1) Squibb, 2) Sunplexion, 3) Helena Rubinstein Sun-Tonic, 4) Ritztone, 5) Charles of the Ritz, 6) Quinlan, 7) The Owl (West Coast), 8) Noxzema Oil, 9) Norwich Oil, 10) Noil, 11) Noxzema Cream, 12) Marles (West Coast), 13) Miami Tan, 14) Mulsitan. The band at the top is a calibrated spectrum; the second band is a comparison spectrum, showing 7% transmission; the band at the bottom, also a comparison spectrum, shows 100% transmission

Elmo Sunburn Cream (Elmo Sales Corp., Philadelphia). $1 a bottle; 25¢ per fl. oz. Greasy. Stained wool fabric permanently.

Dorothy Gray Beach Oil (Dorothy Gray Salons, NYC). $1 a bottle; 27¢ per oz. Greasy.

Harriet Hubbard Ayer Sun Cream (Harriet Hubbard Ayer, NYC). $1.50 a tube; 48¢ per oz. Rather greasy. Excellent tube. Most expensive of brands tested.

Richard Hudnut Sun Tan Oil (Richard Hudnut, NYC). 75¢ a bottle; 25¢ per oz. Greasy. Unpleasant appearance on some skins.

Noil Liquid Sun Shade (Norwich Pharmacal Co., Norwich, N. Y.). 29¢ a bottle; 19¢ per fl. oz. Unpleasant medicinal odor. Unpleasant appearance on some skins.

Coty Sunburn Lotion (Coty, NYC). $1 a bottle; 25¢ per fl. oz. (Packaged with special box "Air Spun Coty Poudre de Beaute L'Origan Cotytan" face powder.) Stained wool fabric permanently.

Fair Protection

(In approximate order of merit)

The following brands gave consistently fair results:

Noxzema Greaseless Suntan Cream (Noxzema Chemical Co., Baltimore). 34¢ a jar; 9¢ per oz.

Tussy Emulsified Sun-Tan Lotion (Lehn & Fink Products Corp., NYC). $1 a bottle; 13¢ per fl. oz. Stained wool fabric permanently.

Sunfoe Lotion (Schieffelin & Co., NYC). 45¢ a bottle; 15¢ per fl. oz.

Lentheric Huile Sun Oil (Lentheric, NYC). $1.25 a bottle; 31¢ per fl. oz. Greasy. Strong, sweet perfume. Convenient dispenser top.

Yardley Suntan Oil (Yardley, London, Eng.). $1.35 a bottle; 36¢ per fl. oz. Greasy.

Barbara Gould Sun Beauty Lotion (Barbara Gould, NYC). $1 a bottle; 25¢ per fl. oz. This lotion has a white powdery appearance on the skin.

CD Anti-Sun Lotion (Cooperative Distributors, NYC). 30¢ a bottle; 8¢ per oz. Greasy. Unpleasant appearance on skin.

Spectrographic and skin tests gave varying results on the following brands (for possible interpretation see text):

Dorothy Gray Sunburn Cream (Dorothy Gray Salons). $1 a bottle; 31¢ per fl. oz. Only fair in spectrographic tests; good in skin tests.

Jergens Sunburn Cream (Andrew Jergens Co., Cincinnati). 59¢ a bottle; 20¢ per fl. oz. Only fair in spectrographic tests; good in skin tests.

Gaby Greaseless Suntan Lotion (Gaby, Philadelphia). 44¢ a bottle; 11¢ per oz. Good in spectrographic tests; only fair in skin tests.

Mulsitan (R. L. Watkins Co., NYC). 43¢ a bottle; 22¢ per fl. oz. Good in spectrographic tests; only fair in skin tests. Greasy. Unpleasant odor.

Noxzema Suntan Oil (Noxzema Chemical Co.). 50¢ a bottle; 17¢ per fl. oz. Poor in spectrographic tests; good in skin tests. Greasy. Odor unpleasant.

Valaze Sunburn Oil (Helena Rubinstein, NYC). $1 a bottle; 33¢ per fl. oz. Greasy. Convenient dispenser cap. Good in spectrographic tests; only fair in skin tests.

Sunplexion Lotion, Lotion Soleil (Lentheric). $1 a bottle; 21¢ per fl. oz. Good in spectrographic tests; poor in skin tests.

Poor Protection

The following brands are "Not Acceptable" because they were found ineffective:

Conti Beach-Tan Oil (Conti, NYC). 39¢ a bottle; 10¢ per fl. oz. Greasy.

Gypsy Tan (United Drug Co., Boston). 49¢ a bottle; 12¢ per fl. oz. Greasy. Sample tested had rancid odor.

Barbara Gould Sun Beauty Oil (Barbara Gould). $1 a bottle; 24¢ per fl. oz. Greasy.

Miami Tan Sun Oil (Hampden Sales Corp., NYC). 10¢ a bottle; 6¢ per fl. oz. Greasy.

(Ratings continued on page 24)

BEST BUYS in CU rates

Since instituting new rates for two- and three-year memberships several months ago, CU has been deluged with a minor flood of renewals and new memberships taking advantage of the savings made possible.

The savings are one dollar on two-year memberships—instead of paying $6 you pay $5; two dollars on three-year memberships — instead of paying $9 you pay $7.

If you'd like to get the bother of renewing over for a good long period to come; or, if you're new to Consumers Union and want to take out a long-term membership at a saving, fill in and send in the coupon below.

CONSUMERS UNION

17 Union Square W., N. Y. C.

I'd like to take advantage of the long-term rates.

☐ Renew my membership for..... years.

I enclose $.....(**$5** for two years, **$7** for three years)

☐ Enroll me as a new member for ..... years.

I enclose $.....(**$5** for two years, **$7** for three years)

(Two- and three-year rates for the West Coast Edition — the national *Reports* plus the monthly West Coast Section—are $6 and $8.50.)

I agree to keep confidential all material sent to me which is so designated.

Name .....

Address .....

..... 7CU9

Norwich Sun Tan Oil (Norwich Pharmacal Co.) 49¢ a bottle; 16¢ per fl. oz. Greasy.

Charles of the Ritz Sunburn Cream (Charles of the Ritz). $1 a bottle; 25¢ per fl. oz.

Helena Rubinstein Sun-Tonic (Helena Rubinstein). $1 a bottle; 25¢ per fl. oz.

Squibb Sun Tan Lotion (E. R. Squibb & Sons, NYC). 49¢ a bottle; 16¢ per fl. oz.

Skol (Skol Co., NYC). 98¢ a bottle; 16¢ per fl. oz.

Vin-A-Balm (Vivaudou, NYC). 39¢ a bottle; 8¢ per fl. oz. Strong vinegar odor.

Resignation

THE Board of Directors of Consumers Union has accepted the resignation of Dr. Charles A. Marlies. The following joint statement was adopted by the Board and concurred in by Dr. Marlies:

The Board wishes to express its deep appreciation of the past services of Dr. Marlies who, as one of the founders, a member of the Board of Directors and the Executive Committee of Consumers Union, and former head of the Chemical Section of the organization, has given generously of his time and energies to the common effort to build up Consumers Union. In the rapid growth of CU to a position of leadership in the consumer field, we have encountered disagreements with Dr. Marlies as to the authority of the Director of CU, and the proportion of the resources of the organization to be devoted to strictly technical work. Dr. Marlies feels that it will be in the best interests of CU and of himself that he step aside at this time.

In accepting Dr. Marlies' resignation, the Board states that it has maintained and will continue to maintain the quality of CU's technical work in its desire to give CU's consumer-members advice on the many problems with which they are confronted, some of which fall within the technical realm, some of which are medical, some of which are financial, and some of which center in legislative reform.

There Ought to be a Law . . .

by RACHEL LYNN PALMER

Postponing Food & Drug Protection

BOTH houses of Congress have passed and the President has signed the amended Lea Bill, postponing until January 1, 1940, the application of important consumer-protective provisions of the new Food, Drug and Cosmetic Act. An additional six-month extension, to July 1, 1940, is provided for lithographed labeling and for labeling which is an integral part of the container.

Business interests determined to emasculate the new law will undoubtedly come forth with more proposals at the next session of Congress. Consumer organizations will have to fight actively the campaign for emasculation if the added protection provided by the new law is not to be lost—witness the ease with which the amendment to postpone was passed.

Fruit & Lead

FRUITGROWERS, pleased at the recent raising of the Federal tolerance for lead and fluorine (see CU *Reports* for November and December 1938), are now turning their attention to the "liberalization" of the few existing State regulations relating to spray residue. During the past Winter, a bill was introduced in the Colorado Legislature which exempted from the State spray residue restrictions, apples and pears sold in quantities of less than 2,000 pounds, presumably on the theory that such small shipments would be limited to intrastate commerce and therefore would not come under the supervision of Federal authorities. Fortunately it was tabled in the Agriculture Committee.

In the State of Washington, at the request of the apple growers, the Dep't of Agriculture recently held a hearing on the raising of the tolerance for spray residue. The apple growers pressed for a State tolerance of 0.05 or 0.06 grains of lead per pound of fruit, 0.05 or 0.06 grains of fluorine, and 0.025 or 0.03 grains of arsenic. The Federal tolerance—recently and without regard for the public health, raised for both lead and fluorine—is 0.025 for lead, 0.02 for fluorine and 0.01 for arsenic. What tolerance will be set in Washington as the result of the hearing is not yet known. But if the Director of Agriculture accedes to the growers' demands, consumers of that State may expect to receive with their home-grown apples more than twice the poison considered safe by lenient Federal standards.

In the statement Consumers Union submitted for consideration at the hearing it was pointed out that in the long run, farmers as well as consumers will suffer if the use of lead arsenate on fruit trees and vegetables is not kept at a minimum. In addition to the injury livestock often suffers from eating contaminated vegetation in orchards or adjoining fields, and the harm done to honey bees, essential for the pollination of fruit trees, the soil itself may become infertile as the result of accumulated spray residue. One study conducted by scientists associated with the Washington Agricultural Experiment Station showed excessive concentration of soluble arsenic in the soil, resulting from lead arsenate spray accumulations, to be a cause of poor crops on sites once used for orchards.

Fair Trade for Whom?

ONE of the witnesses appearing at the hearings held on the proposed District of Columbia Fair Trade

Investors Syndicate

A DETAILED picture of financial arrangements within Investors Syndicate is contained in a brief recently filed with the Securities and Exchange Commission by three CU directors: Paul J. Kern, Abraham J. Isserman and Bernard Reis. Mr. Reis' article on the Investors Syndicate, entitled "Faith Is Not Enough," appeared in the May *Reports*. The brief, which is considerably more detailed than the article, urges the SEC not to accept for registration $150,000,000 of Investors Series H investment contract. A copy may be obtained from CU for 50¢.

bill was Corwin D. Edwards of the Dep't of Justice, who pointed out that the tendency of such legislation is to divert the emphasis from price competition to sales effort. That this is exactly what the retailers hope to accomplish by Fair Trade laws is openly admitted by *Drug Trade News*, which recently editorialized: "Once a consumer is led to expect bargains—and to go out of her way to look for them—she then becomes no one's 'regular customer.' Consequently there is never any profit in such a customer. . . . With fair trade now *minimizing the price factor*, repeat customers are becoming the rule rather than the exception." [Italics ours.]

Price-fixing laws which tend to eliminate competition and thus make unprofitable the time-honored custom of shopping around may leave the retailer sitting pretty. But they aren't "fair trade" for consumers.

How Many $$s for Endorsers?

It's not likely that the House of Representatives will get around to considering H.R. 94—Mr. Maloney's bill affecting personal endorsements of articles over the radio, and requiring the endorser to announce that he was paid for his recommendation if such was the case. If it's reintroduced next year we hope that it will be made to cover endorsements in any type of advertising and, out of deference to natural curiosity, require the endorser to tell his price.

Parents' Service

[From The New Yorker's listing of World's Fair "Hoopla and Honky-Tonk"]

CRYSTAL PALACE (A)—A potpourri of peepshows from earlier Fairs, with a certain Rosita Royce doing a dance, costumed in doves. No seats, and a good deal of jostling for preferred standing room.
CUBAN VILLAGE (A)—Another standing-room-only place. Coochy dancing, with a girl named Dolores trying to be Mr. Whalen's Little Egypt.

[From Parents' Magazine's listing of World's Fair "Exhibits of special interest to children"]

CRYSTAL PALACE: **"A Fair Within A Fair"**—An exhibition of American Fairs from 1853 to today. **Two theatres,** in addition to exhibits, provide half an hour's entertainment contrasting the type of production amusing World's Fair visitors of yesteryear with that of today. Interesting to teen-age children. One admission fee—25c.
CUBAN VILLAGE: **Puppet shows,** colorful **fiestas, pageants** and exotic **Cuban dances** performed by native Cubans will give the illusion of a genuine visit to this fascinating country. Small admission fee.

(Reprinted from The New Yorker by permission.)

Baking Powder

Some notes on the three main types and how they act; CU's position on a controversial point and ratings of 19 leading brands

"THE history of leavening agents is the story of a struggle to convert the primitive sun-baked slabs of grain and water into porous, light bread. A leavening agent produces the light, cellular structure that renders oven products attractive and palatable, and makes their nutritive values readily available for digestion."[1]

The leavening agent most commonly used in the modern home is baking powder. And if the modern housewife believes the ads, she believes that her baking success or failure depends on what brand of this product she uses. The facts, however, are quite otherwise. Most baking failures are due not to the wrong baking powder, but the wrong baking procedures—to carelessness in measuring, to the wrong baking time, or the wrong oven temperature.

Baking powders function by liberating small gas bubbles within the dough. The powders consist of sodium bicarbonate (baking soda), an acid or an acid salt, and starch. Moisture causes the bicarbonate and the acid to react, generating carbon dioxide; the action is then increased by heat. The starch is inert, but nevertheless useful: by separating the particles and absorbing moisture it prevents the baking powder from decomposing prematurely; and by increasing the bulk of the powder, it facilitates the task of mixing it evenly through the batter.

THERE are three main types of baking powders. They differ chiefly in their acid ingredient; this in turn affects the amount of the baking powder's leavening action in unbaked dough. Type is indicated in the ratings.

1. *Phosphate type*, containing calcium acid phosphate. These powders will yield not more than two-thirds of their gas in unbaked dough which is allowed to stand.

2. *Tartrate type*, containing cream of tartar, and often tartaric acid as well. These powders will yield all their gas in unbaked dough which is allowed to stand.

3. *Alum-phosphate type*, containing both calcium acid phosphate and sodium aluminum sulfate (so-called "alum"). These "double-acting" powders will liberate one-third to one-half of their gas in unbaked dough which is allowed to stand.

If you add the powder immediately before baking, the type makes little difference. But if telephone calls or children frequently summon you away, you may find that a tartrate powder liberates so much of its gas before the dough is baked that cake volume suffers. On the other hand, if you use very slow-acting powders with a tartrate-type recipe a crust may form before the dough has risen, and then break later.

A much disputed question is the possible harmfulness of the residues left by the various powders. From this point of view, the most desirable of the three types is undoubtedly the phosphate, for the residue of calcium and sodium phosphates left is not only harmless but also may be of some nutritional value. Tartrate powders leave a residue of Rochelle salt; alum-phosphate powders leave aluminum hydroxide and Glauber's salt. Rochelle salt and Glauber's salt are well known laxatives; however, the quantity ordinarily consumed daily from baking powder would be far below the usual laxative dose.

The main point of the controversy is the effect of the aluminum hydroxide. In its last report on baking powders (see CU *Reports*, November 1936), CU rated powders containing sodium aluminum sulfate "Not Acceptable" because of published reports indicating that they might be harmful, and because it is CU's policy to resolve any reasonable doubt along lines of caution in protecting the consumer. But since CU's continued investigations have revealed no convinc-

[1] Doris W. McCray, *Hygeia*, October 1934.

ing evidence that these baking powders are harmful in amounts ordinarily consumed, and since the preponderance of expert opinion was, and is, that these powders are safe in such amounts, CU no longer rates them "Not Acceptable." However, the "alum" powders are indicated in the ratings below for those who may still wish to avoid them.

THERE are several items to remember when you use any baking powder. If the powder is lumpy it is probably damp, and if it is extremely lumpy, you will be wise to discard it and thereby reduce the risk of a baking failure. The worst *faux pas* is to dip a wet spoon into the can; the entire contents may eventually be ruined. To protect the powder from atmospheric moisture, keep the can tightly sealed. Be particularly careful to measure quantity correctly; a heaping teaspoonful instead of a level teaspoonful can make a marked difference in the cake.

Other things being equal, the best baking powder cans are those which keep the powder the driest; for this purpose, metal is preferable to cardboard, and screw caps, or insert caps which pry open with a spoon handle, are generally better than sleeve caps.

The following ratings are based primarily on cost per ounce of available carbon dioxide (CO_2), which is the best basis for comparing baking powder economy. (The Food & Drug Administration requires a minimum of 12% available carbon dioxide. All but two of the brands tested met this standard; and these two so nearly met it they were rated "Acceptable.")

It is well to remember that if you change to a new type of baking powder, you may need to modify your baking procedure slightly.

Listings are in order of cost per oz. of available carbon dioxide, but note comments.

Best Buys

IGA Double-Action Baking Powder (Independent Grocers Alliance, NYC). 1 lb., 17¢; cost per oz. of CO_2, 7.3¢. Alum-phosphate type.

Ann Page Kitchen Tested Baking Powder (A&P stores). 12 oz., 13¢; cost per oz. of CO_2, 7.4¢. Phosphate type.

KC Baking Powder (Jaques Mfg. Co., Chicago). 10 oz., 9¢; cost per oz. of CO_2, 7.5¢. Alum-phosphate.

Clabber Girl Double-Acting Baking Powder (Hulman & Co., Terre Haute, Ind.). 10 oz., 10¢; cost per oz. of CO_2, 8.2¢. Alum-phosphate.

Co-op Phosphate Baking Powder (Eastern Cooperative Wholesale, NYC). 1 lb., 19¢; cost per oz. of CO_2, 8.3¢. Phosphate type.

Davis Double-Acting Baking Powder (R. B. Davis Co., Hoboken, N. J.). 12 oz., 15¢; cost per oz. of CO_2, 8.8¢. Alum-phosphate type.

THE TRAGEDY OF THE WRONG BAKING POWDER

. . . as presented by Standard Brands in its ads for Royal. Actually most baking failures are caused simply by incorrect baking technique

Asco Baking Powder (American Stores Co., Philadelphia). 1 lb., 19¢; cost per oz. of CO_2, 9.3¢. Phosphate type.

Also Acceptable

Dr. Price's Phosphate Baking Powder (Standard Brands, Inc., NYC). 12 oz., 19¢; cost per oz. of CO_2, 12¢. Phosphate type.

Calumet Double-Acting Baking Powder (Calumet Baking Powder, div., General Foods Corp., Chicago). 12 oz., 19¢; cost per oz. of CO_2, 12¢. Alum-phosphate type.

Red & White Baking Powder (Red & White Corp., Buffalo, N. Y.). 1 lb., 25¢; cost per oz. of CO_2, 12.4¢. Alum-phosphate type.

Economy Baking Powder (R. C. Williams & Co., NYC). 12 oz., 19¢; cost per oz. of CO_2, 14¢. Alum-phosphate type.

Watkins Baking Powder (J. R. Watkins Co., Winona, Minn.). 1 lb., 35¢; cost per oz. of CO_2, 15.9¢. Alum-phosphate type.

Larkin Cream of Tartar Baking Powder (Larkin Co., Buffalo, N. Y.). Two 6-oz. cans, 25¢; cost per oz. of CO_2, 18¢. Tartrate type.

Macy's Lily White Baking Powder (R. H. Macy & Co., NYC.). 12 oz., 30¢; cost per oz. of CO_2, 19.3¢. Tartrate type.

Schilling Baking Powder (A. Schilling & Co., San Francisco). 12 oz., 28¢; cost per oz. of CO_2, 20.6¢. Tartrate type.

Grand Union Baking Powder (Grand Union Tea Co., NYC). 1 lb., 50¢ (buyer receives 16¢ in premium stamps); cost per oz. of CO_2, 21.2¢. Alum-phosphate type. Price reflects allowance for premium stamps; such schemes usually work to the detriment of the consumer.

Royal Baking Powder (Standard Brands, Inc.). 12 oz., 37¢; cost per oz. of CO_2, 22.3¢. Tartrate.

Jewel Baking Powder (Jewel Tea Co., Barrington, Ill). 1 lb., 50¢ (20¢ in premium credit given purchaser); cost per oz. of CO_2, 22.5¢. Alum-phosphate type.

Rumford Baking Powder (Rumford Chemical Works, Rumford, R. I.). 6 oz., 19¢; cost per oz. of CO_2, 24.7¢. Phosphate type.

Portable Radios

Before you buy one be sure to know their uses and their limitations —which are numerous. An account of what you can and can't expect from a portable is given here, along with ratings of 18 models

PORTABLE radios are the answer to the radio manufacturers' Summer slump. According to conservative estimates several hundred thousand of them have been sold to date and the industry hopes to dispose of at least a million before the end of the Summer. New models have been rushed on the market in such profusion that counters of radio stores are now almost as colorful as cosmetic departments and are beginning to offer as much variety.

A portable battery radio is a midget radio equipped to operate on dry batteries without external antenna. It employs four or five special battery tubes, weighs from nine to 20 pounds, and costs from $15 up. Enclosed in a suitable carrying case, it can be transported as easily as a piece of luggage. It operates without external power supplies or trailing wires, and can be used indoors or outdoors and on almost any type of moving vehicle, except where it is surrounded by steel, as in a modern railroad coach. The portable is not, however, a satisfactory substitute for the present automobile radio. By comparison the portable is expensive to operate and its reproduction is poor. In all-steel automobiles it can be used only with an external antenna.

IT IS important to realize, before you buy a portable, that it is worth buying only for use where ordinary electric lighting circuits are not available, and where the need for portability rules out storage batteries. First of all, its reproduction quality is nothing like that which can be expected from most modern radios. The electrical output of the portables is very small (.2 watts) and the small loudspeaker uses this energy very inefficiently, with considerable distortion. Such distortion, which increases with battery wear, is particularly bad when sets are used outdoors where volume must be increased.

Remember also that, despite the advertisements, there is no assurance that reception will be noiseless simply because the set has no external antenna and is not connected to a light circuit. On the contrary, noise may often be reduced by attaching a regular antenna and ground to the set. (In some portables the built-in loop antennas are directional; these sets can be rotated until the received signal is loudest. The rotation may help keep out noise or unwanted stations.)

Second, many portables will not receive even large broadcasting stations more than 100 miles away. And reception from the average small broadcasting station may be limited to as little as 25 miles. This point may be especially important if you plan to use the radio on a vacation in some comparatively isolated spot. In that case you will be wise to try out the radio on distant stations before you buy it, or at least before you start on your trip.

You will be safer still to buy a portable to which an external antenna and ground can be attached. In any case, don't buy a portable until you have tested its sensitivity out-of-doors. Such a test is the only sure way of verifying the salesman's inevitable statement that the set will be more sensitive when it is not operated in a steel building. (One large retailer has solved this problem by concealing leads from outdoor antennas under the tables where his portables are demonstrated. If the radios are lifted from the table they hardly work at all.)

In general, the portable may be useful in areas where electricity is not available or for such purposes as beach and boat use. For other purposes you will be better off with a standard midget ac-dc set. These cost about half as much as the portables, and frequently give better service. They are lighter, less troublesome to transport and less expensive to operate.

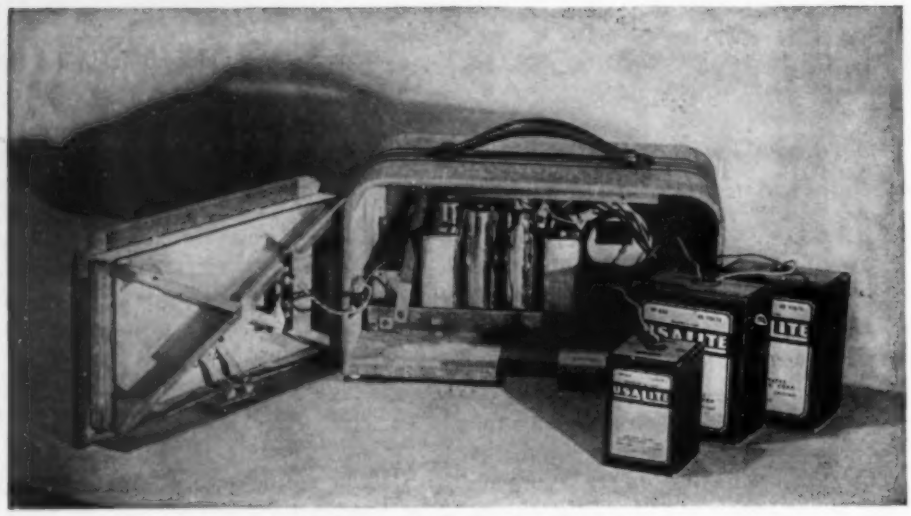
There are portables so designed that at the turn of a switch they will operate either on 110 volts a-c or d-c or on batteries. Such sets combine some of the advantages of the ac-dc midget and the portable at about the combined cost of both, but they are heavier and clumsier than either. However, operation of a portable from the lighting circuit does not increase its power output. The portable will still be able to give only a small proportion of the indicated power output of a regular ac-dc midget.

If you decide on a portable you will be wise to try carrying the set before you buy it. Poor weight distribution in some models makes them difficult to carry. On the other hand, don't buy a set simply because of its light weight —many of the lighter weight models have small batteries and, consequently, are much more expensive to operate. (Small batteries cost almost as much as large ones and must be replaced more frequently.)

MOST portables sell for about $20; most sets at this price which CU examined were about equal in reproduction quality and sensitivity. They differed chiefly in size, appearance and convenience. At a little more than $20 some sets come with loudspeakers which, in some cases, improved reception quality; but on the whole the more expensive sets do not offer significantly better performance. Below $20 the portables were somewhat more variable in performance.

Because there is a rapid turnover in portables, and because new models seldom require new dies or factory equipment, manufacturers change their models frequently. Emerson, for example, rushed into the market with a portable which was clumsy to handle because of poor weight distribution. In the new *Emerson* model, at the same price, batteries are below the chassis instead of behind it; consequently the radio is easier to carry. But batteries in the *Emerson*—like those in most portables—cannot be replaced without a screwdriver.

The portable's external finish should be strong enough to provide reasonable protection; on the other hand, in view of the fact that your purchase will soon be obsolete, cowhide-covered sets and other expensively finished



INSIDE STORY OF A PORTABLE

The signal is picked up on the loop antenna (left), is selected, amplified and converted into sound. Power is supplied by batteries (right)

products are not worth the money. Most sets are covered—satisfactorily enough—with the varnished canvas used in airplane luggage.

Sets should be equipped with front covers to protect knobs and speakers during transportation, or with recessed knobs and dials. Portables should also be equipped with some device indicating when the set has been turned off.

Avoid radios equipped with built-in spring-wound phonograph players. They are too bulky and too expensive. An old-fashioned spring-wound portable phonograph will provide louder and better tone. (Both types are hard on records.)

BUY only sets which use standard size batteries. Avoid sets with batteries which are all in one block, odd shapes and sizes, or have anything but standard plug-in connections. Be sure to ask the salesman to show you how to replace the batteries, and don't buy the set if this procedure is too complicated.

In general, the 1½-volt cell (A-battery) will operate for about 150 hours and the two 45-volt batteries (B-battery) for about 200 hours. Since a set of batteries costs about $3, the cost for power supply for a portable radio is about 1½¢ or 2¢ an hour.

Remember that batteries deteriorate when they are left standing. If the set is to be used only occasionally such deterioration should be considered part of operating cost. Be sure to buy fresh batteries, and don't buy an extra set unless you are planning to take the portable into remote areas where new batteries may not be too easily available.

Since the A-battery is likely to wear out before the B-battery, you will be wise to replace it first if the set becomes inoperative. If the set still will not operate, even after the new A-battery has been installed, you had better take it to a radio store for a test of B-batteries and tubes.

Heat reduces the life of batteries; therefore all portables should be kept out of the strong sunlight and off hot floors of automobiles. If the portable is designed to operate on the lighting circuit as well as on batteries, make sure that the batteries are not connected in the circuit when the house current is used. Despite the contention of manufacturers that this practice charges the batteries, it actually decreases their life by generating heat in them. It is best to remove the batteries from the set while using house current.

If they are overheated, short circuited, or defective, batteries may leak a corrosive paste. This paste, known as the electrolyte, may seriously damage the chassis and speaker; in well-designed sets these parts are protected from such leakage. If they are not so protected, be sure to remove batteries —especially old ones—when the set is not to be used for some time.

Portable tubes are made with delicate filaments and are not likely to be so rugged as those in standard sets. More frequent failure of tubes may be an additional expense in the operation of a portable. At least it means that you must be careful not to jounce the set or knock it about.

Battery tubes are also likely to be microphonic, that is, to cause a ringing sound in the loudspeaker when the set is vibrated. A microphonic tube is defective and should be replaced under the terms of the tube guarantee.

Best Buys

(Ratings are in alphabetical order only)

CD Cat. No. —H 4669 (Cooperative Distributors, NYC). $19.95 plus postage.

Lafayette Model No. BB 70 (Wholesale Radio Service Co., NYC). $19.95 plus postage.

Ward's Airline Cat. No. —2555 (Montgomery Ward). $21.45 plus postage.

These are the same sets, manufactured by Wells, Gardiner & Co., Chicago. 5 tubes. On-off indicator. 6-inch speaker gave better tone than average portable. Sensitivity good. Room for slightly larger A-battery which would permit operation for about the same number of hours as 4-tube receiver with regular size battery. Battery replacement $2.45. External antenna and ground posts. Tuning range 540–1,600 kc. "Best Buys" only if tone and sensitivity are more important than light weight (weight 16 lbs.).

Also Acceptable

(Ratings are in alphabetical order only)

Crosley Model 429 (Crosley Corp., Cincinnati). $19.99. 4 tubes. Good weight distribution. Average performance. Standard batteries. Set had external antenna and ground posts.

Emerson Model CX 283 (Emerson Radio & Phonograph Corp., NYC). $19.95. 5 tubes. Good weight distribution. More sensitive than 4-tube sets, but additional drain on A-battery. Reproduction average. Standard batteries. Rated as 1940 model. (Model CT 275 which is rated as

1939 model, but has only been out a few months, has the same chassis and speaker. Weight distribution poor. This set may possibly be obtained at a reduced price; some dealers still selling it as a current model.) Emerson also manufactures a portable —Model CE 263—for $24.95; it has a better speaker, but no other advantages.

Macy's Model M 204 (R. H. Macy & Co., NYC). $15.94. 4 tubes, average performance. Standard batteries. External antenna and ground connection.

Macy's "AC-DC-Battery Portable." $24.94. 5 tubes. Average performance on batteries or line. Had cover for front. Good weight distribution. Turned off automatically when cover closed. Equipped with switch to change from battery operation to line operation. Pilot light on ac-dc. Standard size batteries which were easier to change than those in other sets but should be removed when radio is operated on ac-dc so that heat will not shorten their life. Had external antenna posts.

Fada Model P 40 (Fada Radio & Electric Co., NYC). $19.95. 4 tubes. Average performance with good sensitivity. Standard batteries. ***Fada*** Model P 58, $29.95 for ac-dc operation as well as on batteries. Had additional rectifier tube. Slightly overpriced in comparison with others.

Philco "Little Pal" Model 81 T (Philco Radio & Television Corp., Philadelphia). $19.95. 4 tubes. 4-inch speaker. No on-off indicator. Average performance. Weight only nine pounds with smaller type batteries, but these increase cost of operation. CU does not accept the manufacturer's claim that this set has a more efficient circuit which permits as many hours operation on small batteries as do other sets on standard batteries. A good buy only if light weight is more important than cost of operation.

Philco Model 72-T. $32.50. 4 tubes. On-off indicator. 5-inch speaker. Battery life 250 hours; battery replacement $3.50. Tuning range 530 to 1,650 kc. Excellent workmanship, but very much overpriced.

RCA Model 94 BP 1 (RCA Manufacturing Co., Camden, N. J.). $19.95. 4 tubes. No on-off indicator. 4-inch speaker. Average performance. Standard batteries. So constructed that volume control and tuning knobs could easily be knocked off in transit. RCA manufactures Model 94 BP 80, $29.95; leather covered, lid for front, larger speaker, overpriced.

Sears' Cat. No. —6266 (Sears-Roebuck). $19.95 plus postage. 4 tubes. Standard batteries. Average performance. External antenna and ground posts.

Sears' Model 6256. $14.95, stores only. 4 tubes. Performance not so good as Cat. No. —6266. Tone slightly poorer than average. External antenna and ground posts.

Stromberg-Carlson Model 402 H (Stromberg-Carlson Telephone Mfg. Co., Rochester, N. Y.). $29.95. 4 tubes. Average performance. Batteries smaller than standard. Overpriced.

Truetone Model D 937 (Western Auto Supply Co.). $24.95. Manufactured by the same company that makes ***Lafayette***, and performance similar to it. 5 tubes. Battery replacement $2.94.

Truetone Model D 938 (Western Auto Supply Co.). $18.95. 4 tubes. Average performance. Standard batteries.

Ward's Airline Cat. No. 1455 (Montgomery Ward). $17.95 plus postage. 4 tubes, 5-inch speaker. Standard batteries, replacement $2.55. Average performance. Battery cover plate on bottom must be removed with screwdriver to connect external antenna and ground. Tuning range 540–1,600 kc. Set had convenient case and good weight distribution.

Not Acceptable

General Electric Model HB 403 (General Electric Co.). $19.95. Uses special A- and B-batteries cast in a single block. If A-battery wears out before B-batteries, entire block must be replaced. Replacement may be difficult except from GE dealers who may not have fresh stock. Batteries smaller than standard. Speaker on set tested rattled very badly.

For Camera Fans

A cheer for CU's "Handbook"

COLUMNIST Howard Vincent O'Brien of the Chicago *Daily News* has such pleasant words to say about CU's "Photographic Buyers' Handbook" that it seems appropriate here to quote his remarks at some length:

"This book steers as clear as is humanly possible away from the troubled waters of opinion; and hews pretty close to the line of demonstrable fact.

"For anyone who is thinking of getting a camera; or who has a camera and is thinking of new gadgets for it; I would say that the word 'indispensable' was not too strong for this extraordinary volume. . . .

"The volume is astonishing for a second reason. Seldom, if ever, has a book been published whose sole purpose is to take the buyer by the hand and tell him what is good, what is not so good and what isn't worth the money at any price. . . ."

Mr. O'Brien notes that the "Handbook" includes a list of German-made products for the convenience of readers who may wish to boycott them:

"This, I think, is something new in book publishing. It shows to what an extent business and politics and morals have become all mixed up. And it suggests that as more buyers' guides appear on the market, more attention will be paid to the conditions under which goods are made—at home no less than abroad. The buyer's conscience will be appealed to, as well as his pocketbook."

("The Photographic Buyers' Handbook," published by Simon & Schuster, is on sale at bookstores for $2.75, may be purchased by CU members for $1.50 from the CU office.)

(This blank is for CU members only)

CONSUMERS UNION
17 Union Square West, NYC

Please send me a copy of the "Photographic Buyers' Handbook." I enclose $1.50.

Name.....

Address.....

.....7 CU

Partial Contents—CU Reports

MAY, 1936—Alka-Seltzer, Milk, Toothbrushes.

JUNE—Vegetable Soup, Vegetable Seeds, Anacin.

JULY—Used Cars, Travel, Cooperative Distributors.

AUG.—Heating Equipment, Bread, Laundry Soaps.

SEPT.—Shoes, Tires, Whiskies, Hot-Water Bottles.

OCT.—Dentifrices, Men's Shirts, Coal and Oil, Brandies, Gins, Rums & Cordials.

NOV.—Electric Toasters, Baking Powder, Wines.

DEC.—Vacuum Cleaners, Mineral Oil Nose Drops, Electric Irons, Fountain Pens, Blankets, Tomato Juice.

JAN.-FEB., 1937—Men's Suits, Shaving Aids, Hand Lotions, Maple Syrup.

MARCH—Sheets, Face Powders, Flour, Canned Asparagus & Cherries.

APRIL—Aminopyrine, Cold Cream, Men's Shirts.

MAY—Trailers, Washing Machines, Constipation.

JUNE—Cameras, Sanitary Napkins, Constipation.

JULY—Miniature Cameras, Fans, Ice Boxes, Constipation.

AUG.-SEPT.—Ice Cream, Photographic Equipment, Inner Tubes, Fish Baits, Raincoats, Electric Clocks, Constipation.

OCT.—Auto Radios, Cereals, Heating Equipment, Constipation.

NOV.—Anti-Freezes, Portable Typewriters, Men's Hats, Constipation (concluded), Sewing Machines.

DEC.—Elec. Shavers, Lipsticks, Cigars, Toys, Radios.

JAN., 1938—Lisle & Rayon Stockings, Men's Shorts, Batteries, Vitamins.

FEB.—1938 Automobiles (ratings), Vitamins A & D.

MARCH—Coffee, Razor Blades, (Gillette type), Mechanical Pencils, Depilatories, Women's Shorts.

APRIL—Tuna Fish, Electric Ranges, Electric Heating Pads, Mattresses, Radio Antennas.

MAY—Permanent Waves, Waffle Irons, Razor Blades (Gem type), Bicycles & Velocipedes, Bedsprings.

JUNE—Dog Foods, Refrigerators, Canned Fruits & String Beans, Men's Handkerchiefs, Cleansing Tissues.

JULY—Cigarettes, Sunburn Preventives, Sunglasses, Gasoline, Motor Oils.

AUG.—Coca-Cola, Catsup, New Cameras & Equipment, Sneakers, Furs.

SEPT.—Men's Shirts, Shampoos, Children's Shoes, Furnaces & Boilers.

OCT.—Alkalizers, Auto Tires, Food Mixers, Dry Cleaning, Oil Burners, Coal Stokers.

NOV.—Infant Foods, Anti-Freezes, Razors, Alkalizers, Auto Heaters, Snowsuits, Cocoa, Oil Heaters.

DEC.—Shavers, 1939 Autos (preliminary), Pens, Marmalades, 1939 Radios, Leather Gloves, Blankets.

JAN., 1939—Hair Dyes, Spot Removers, Radio-Phonographs, Sheets, Investment Plans, Store Sales.

FEB.—1939 Autos (Ratings), Rouge, Window Shades.

MARCH—Tea, Toilet Soaps, Juice Extractors, Can Openers, Men's Topcoats, Canned Peaches & Asparagus, Correspondence Schools.

APRIL—Face Creams & Powders, Men's Shoes, Headache Preparations, Antiseptics, Seeds & Fertilizers.

MAY—Candy Bars, Electric Irons, Lipstick, Bromide Drugs, Flour.

CONSUMERS UNION
17 UNION SQUARE W., NYC

I enclose:

☐ $.25 for the.....issue.
☐ $1 for all 1936 issues.
☐ $1.50 for all 1937 issues.
☐ $2.50 for all 1938 issues.
☐ $6 for all issues through May 1939.
☐ $7 for all issues through May 1939 plus two binders.
☐ $.75 for the following five issues (1939 issues not included):

.....
.....

NAME .....
ADDRESS .....
.....

PRESIDENT WARNE VICE-PRES. MALISOFF VICE-PRES. BRADY

Elected by CU's Board of Directors . . .

Resolutions by Members

Fifteen of them are submitted, discussed and voted on at CU's third Annual Meeting. Herewith an account

EXACTLY 15 resolutions submitted by CU members—ranging from proposals for altering CU's basic structure to proposals for altering the flavor of the glue used on ballots—were discussed and put to a vote at CU's Third Annual Membership Meeting last month in New York City's Town Hall. (For an account of the meeting itself, with excerpts from speeches and officers' reports, see CU *Reports*, June 1939.)

The resolutions were read by CU's counsel, A. J. Isserman, along with the recommendations made by the Board of Directors. Following general discussion of each, the membership accepted three, rejected four and referred seven to the Board for further consideration. Another resolution was rejected in part and in part referred to the Board.

The following resolutions were adopted:

1. The Board of Directors and the staff shall be commended "for the work they have done for Consumers Union and for the entire Consumer Movement."

2. CU shall try to secure glue of better flavor for its ballots.

3. CU shall try to secure a more convenient binder for the *Reports*.

THE *following resolutions were rejected:*

1. A balance sheet and an income, profit and loss statement shall be published within three months after the end of each fiscal year.

This resolution was rejected on the ground that such financial statements are confusing and unenlightening to average readers, and that CU does publish annually a statement of income and expenditures which provides a maximum of information at a minimum of confusion to members.

2. The Board shall be instructed to adopt a budget of anticipated income and expenses in advance of each fiscal year.

Rejected on the ground that fluctuations in CU's income make a year's advance budget impractical. (CU's present budget system, devised as most feasible for the circumstances under which CU operates, calls for budgets based on a five-month period; expenditures are controlled by the Board and Executive Committee.)

3. The Cooperative League Accounting Service shall be designated to audit CU's books and records.

Rejected on the ground that designation of a particular firm would make it mandatory on the Board to engage such a firm without competitive bidding. (CU's accounts are audited at present by an independent firm of Certified Public Accountants.)

4. All articles relating to politics, labor, and similar controversial subjects shall be omitted from CU publications and all staff members except those occupied with technical services shall be dropped from the payroll.

Rejected on the grounds that it conflicts with CU's basic policy as laid down in its charter and as restated many times in the *Reports*.

VICE-PRES. GILMAN SECRETARY SCHULKIND TREASURER REIS

. . . to serve CU through 1939-40

THE *following resolutions were referred to the Board:*

1. No change shall be made in CU's election procedure without careful consideration by the Board. The Board shall be instructed to study what changes might be made which would further protect CU's membership and organization.

2. CU shall strengthen and safeguard its election machinery by giving added emphasis to the Board's endorsement of nominees, without affecting the freedom of the membership to make its own nominations.

3. CU shall report periodically on aspects of new health services and projects.

4. CU shall furnish more detailed information on budgeting of family expenditures and more information on credit agencies.

5. CU shall increase the number of products tested so that a good proportion of them will represent products sold in places other than New York.

6. CU shall rate moving pictures.

7. CU shall include labor notes on all products and in greater detail.

A FINAL *resolution of an omnibus type called for the following:*

a. Publication of CU's By-laws in an early CU *Reports.*

b. Transfer of power to amend the By-laws from the Board to the membership.

c. Provision for the initiation of referenda by the Board, or by the Membership Meeting, or by Membership Petition.

d. Provision that whenever a resolution adopted by the membership at its annual meeting is subsequently rejected by the Board, such resolution shall be submitted to the entire membership with a statement of the reasons for and against the resolution and the vote thereon shall be binding on the Board.

e. Provision that CU shall not be affiliated with any non-consumer, non-technical congress, federation, demonstration or other form of organization without the consent of the membership.

f. Democratization of the election procedure by:

1. Listing the names of all candidates in aphabetical order on the ballot.

2. Providing that no other matter appear thereon except voting instructions.

3. Providing that candidates' statements of qualifications and policies be furnished to the membership either in the monthly *Reports* or separately, with the ballot.

4. Insuring a secret ballot and a non-partisan tabulation of the vote.

The first provision in this resolution was rejected because of the limited space in the *Reports* and because copies of the By-laws may be obtained on request by any CU member, without charge. The last provision (f.) was referred to the Board for further consideration. The other four provisions were rejected for a variety of reasons, most important ones being that they would tend to loosen and decentralize CU's structure to the disadvantage of the organization's efficient functioning, and that they would lay CU open to undue influence by persons inimical to the consumer movement.

Guerlain Lipstick

A warning to consumers

IN THE May, 1939 issue of CU *Reports,* 55 brands of lipsticks were rated according to five qualities—smoothness, stickiness, perfume, taste and indelibility. A sixth and very important quality—adulteration by a poisonous substance—was not considered in the ratings. On the basis of expert opinion that lipsticks now on the market were free of harmful ingredients, CU did not test for their presence. That harmful ingredients are still used in the manufacture of at least one lipstick, however, was brought forcibly home to consumers by the seizure by the U. S. Food & Drug Administration on June 19 of 40,000 cartons of *Guerlain* lipstick. The product was condemned because it contained two metals, cadmium and selenium, in amounts which were sufficient to make the product a potential poison to the user.

The new Food, Drug and Cosmetic Act contains a section (601a) which states that a cosmetic shall be deemed adulterated—"if it bears or contains any poisonous or deleterious substance which may render it injurious to users under the conditions of use prescribed in the labeling thereof, or under such conditions of use as are customary or usual." Under this section of the law, therefore, the Food & Drug Administration has a mandate to proceed against products that *may* be injurious. In other words, under the new law, the Administration would be negligent if it withheld action with respect to cosmetics until it was confronted with an array of deaths from such articles. Scientific evidence seems to indicate that the amounts of selenium and cadmium present in *Guerlain* lipsticks are capable of causing harm. And, in fact, it has just come to our attention that a number of cases of injury to persons who have used *Guerlain* lipsticks have already occurred.

On June 29, 1939 Guerlain, Inc. bought the pages of the N. Y. *Times* for a rebuttal. "In order to re-assure our clientele" a statement was published containing a report by Dr. Alexander O. Gettler, "who is acknowledged to be the foremost toxicologist in America." The report, couched in the scientific terminology that is so persuasive to the uninitiated, purported to prove that "the quantity of Cadmium and Selenium in your products [Guerlain] can in no way be injurious to the health of the individual that is using it."

We regret that we haven't the space to take up in detail the errors in Dr. Gettler's report. We also regret that Dr. Gettler's reputation has been employed to repair the damage sustained by Guerlain, Inc. as the result of the Food & Drug Administration's seizure.

CU fully acknowledges its error in rating *Guerlain* lipstick "Also Acceptable" and hereby changes that rating to "Not Acceptable."

Consumers Union of United States, Inc.

"The purposes for which it is to be formed are . . . to obtain and provide for consumers information and counsel on consumer goods and services . . . to give information and assistance on all matters relating to the expenditure of earnings and the family income . . . to initiate, to cooperate with, and to aid individual and group efforts . . . seeking to create and maintain decent living standards for consumers."—from Consumers Union's Charter.

Medicine at the Crossroads

DR. BERTRAM M. BERNHEIM is Associate Professor of Surgery at Johns Hopkins University and one of the original 430 physicians who formed the group now known as the "Committee of Physicians for the Improvement of Medical Care." Two years ago this group promulgated its famed "Principles and Proposals" and thereby joined hands with other progressive forces to educate both the public and the medical profession on the health needs of the nation. Dr. Bernheim's recently published book "Medicine at the Crossroads," reflects not only his long experience in a hospital imbued with the best of American medical tradition, but also the spirit of social pioneering which led him to join his distinguished colleagues in their celebrated departure from the do-nothing policy of the American Medical Ass'n.

In "Medicine at the Crossroads," Dr. Bernheim tackles medical economics with bare hands. With a critical but unjaundiced eye he inspects the A. M. A., medical education, fee-splitting, reckless and unnecessary surgery, group practice, hospital practice, the physician-patient relationship and health insurance. His work is not scholarly nor does it pretend to be; but it is a useful introduction to a social problem with which all Americans will necessarily become more and more concerned. To doctors eager to protect their own interests and those of their patients, it should be invaluable. And neither doctors nor patients, according to Dr. Bernheim, will continue to accept their present situations indefinitely:

"But whether the private practice of medicine is or is not satisfactory to those engaged in it, one thing is certainly true. Under no circumstances does it give adequate coverage to the sick in general. Not by the widest stretch of the imagination does it take care of the sick poor, nor can it. Doctors can't live on air, and they are not going to continue giving individual care and attention to those who can't pay for it. And if anyone doesn't believe that, all he has to do is read the recent report [*National Health Survey*, 1935–36] of the U. S. Public Health Service. . . ."

He attacks the A. M. A., of which he is a member, with surgical precision:

"One of the troubles with the situation—perhaps the chief trouble—is the attitude taken by the American Medical Ass'n, which has been dominated throughout the years, as one may note, by the older members of the profession: men who have achieved professional, financial and social success and prominence. It is understandable, I think, that they should be most conservative and loath to change. Settled in their ways, satisfied with life, they tend to look backwards and to give undue consideration to the ways and means by which they and medicine in general have come so prominently to the fore. That change is in the air, that social and economic readjustments demand newer and somewhat different methods of approach for the successful development, even for the preservation of medical practice and institutions, seems beyond their ken."

And finally:

"To summarize, then, it may be said that preservation of the health of all is the prime duty of organized society. In this country a beginning has already been made; but, to an alarming degree, the masses still lack adequate medical coverage. General compulsory health insurance will eventually have to be adopted; but the newer developments of hospitalization and group practice have placed at our disposal methods whereby adequate coverage for all might conceivably be had at a minimum expense. All that is needed is further experience both on the professional side and on the administrative side. . . . It would seem as if Government aid, both administrative and financial, will be required. It would further seem that organized medicine will be well advised not only to take a cooperative attitude, but to lead the way."

SO FAR organized medicine has provided a fine example of what the cooperative attitude is not. At the National Health Conference in Washington last Summer the A.M.A.'s contribution to the proceedings was an attack on the very idea of adjusting medical practice to extend medical coverage. During the recent hearings on the Wagner National Health Bill—embodying proposals strongly endorsed at the Health Conference—the A.M.A.'s elder statesmen were again present, again to attack.

There is no question that Dr. Bernheim is right in his advice to organized medicine. But a speaker at the Health Conference provided the necessary corollary to that advice when he pointed out that the way was going to be taken—because it had to be taken—whether organized medicine contributed the leadership or not. With leading farm, labor and consumer organizations, numerous professional groups, and hundreds of progressive physicians like Dr. Bernheim providing the leadership that the A.M.A. is withholding, the prospects for decent medical care are, indeed, good. Even though—thanks largely to the A.M.A. —action on the Wagner Health Bill is not likely at this session of Congress. For the fight will continue. And we suspect that not even the A.M.A. doubts that it will be won.

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